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Document number KP-752 Date of document 4/2/47 - 12/46

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Date request received 10/12/95

Date submitted to ADC 10/30/95

Date submitted to HSA Coordinator 10/12/95

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Date submitted to CICO 11/30/95 1/10/96

Date received from CICO 1/5/96 2-22-96

Date submitted to ChemRisk/Shonka and DOE 2-22-96

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SANITIZED VERSION OF EXTRACT FROM DAILY OPERATIONS REPORT ON
CASCADE JANUARY 1947 THRU JUNE 1947

(EXTRACTED FROM CRD DOCUMENT # KP-752)

Compiled by
S. G. Thornton
Environmental Management Division
OAK RIDGE K-25 SITE
for the Health Studies Agreement

November 30, 1995

Oak Ridge K-25 Site
Oak Ridge, Tennessee 37831-7314
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LOCKHEED MARTIN ENERGY SYSTEMS, INC.
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KP 752 1 A



KP-752

12-13203

Daily Operations Report on Cascade
January 1947 thru June 1947
(Daily Reports bound and Documented
as one report)

PLANT RECORDS DEPT. CENTRAL FILES	
REC.	<u>R-51801</u>
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Process Division

Classification changed to: SECRET
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By authority of CG-PGD-4
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13

18

Page 4 of 4
Series A

PARAFFIN AND CARBON CONTAINMENT INFORMATION
Process Division
Process Engineering Department
Production Engineering Section

DAILY OPERATIONS REPORT - IN PROGRESS

Date of Issue APR 2 1947

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 3-28-47 to 0800 3-31-47

PART I

Summary of Events

Operations - The stage pressures in the K-304 section were adjusted to the new building optimum pressures between 0820 and 1125 on March 28. The following changes were made:

<u>Building</u>	<u>From</u>	<u>To</u>
K-304-1		
-2		
-3		
-4		
-5		

The interplant flow rate to K-27 was increased, from 1030 to 1530, and the crude feed rate was cut by the same amount during this period in order to move excess inventory from E-600 into the cascade, which accumulated as a result of the building pressure optimizations to date.

The converter and valve seat replacement program was completed in K-302-1 when cells 5, 2 and 6 were returned to cascade operation at 0825, 1445 and 1550, respectively, on March 29.

A product withdrawal unit has been installed on the cell floor of K-305-1 between cells 4 and 6. It is expected that withdrawal of side product will be started on March 31. Test runs have been made from the stand.

Overloads resulting from the K-402-7.8 control valve sticking closed tripped several cells in K-402-7 and K-402-8 on overcurrent relay action, starting at 1515, March 30. When this cell (K-402-7.8) was by-passed, down-stream inventory shifts necessitated the isolation of building K-402-7 and K-402-6 to prevent further cell overloads. K-402-6 was returned to cascade operation at 1630 and K-402-7 at 1700. The cells that had been shutdown were on-stream by 1715. The control valve in K-402-7.8 was repaired and this cell was on-stream at 1845.

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The consumption test in K-300-6.4 was continued through this report period.

The monthly plant inventory will be taken at 1800, March 31.

It is expected that building S-300-2 will be shutdown on April 2 for the installation of converters tubed with I-27 and for the installation of P-10 seats in the major building block valves.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
3-29-47	99.77%
3-30-47	99.65%
3-31-47	99.31%

This is the last issue of the "Daily Cascade Operations Report" that will be issued. This pertains also to the "Daily Production Report". It is the consensus that the other Process Division reports will provide sufficient information.

GWSell/ga

A. P. Huber
Operations Office

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PART II
DAILY PRODUCTION REPORT

From 0700, 3-28-47
To 1300, 3-31-47

	Three day Total	Daily Avg. This Month	To Date This Month	Ship	Stock Storage
<u>PRODUCTION - Kgt</u>					
0-2035	11.002		100.232		
0-5327	4808.113		68886.850		798354.124

			Stock Feed Rm. & Storage
<u>USAGES - Kgt</u>			
K-25 Waste	2401.070	14321.959	95325.928
0-616	4207.78	40894.06	77110.65
0-936			1913.83
B-50 Waste			76663.94
0-934			223.96
0-5327	921.570	12643.609	
0-5331		4139.860	
Class B		10.096	

<u>SHIPMENTS - Kgt</u>		
0-2035	9.687	94.549

Day Ending			Daily Avg. This Month
0700, 3-29-47	0700, 3-30-47	0700, 3-31-47	

<u>INTERPLANT FLOW</u>				
Kgt	2822	2822	2822	2821
K-310-3.7	5521621	3381617	8871526	3351614
K-402-9.3	3360525	1140.13	1180347	3350294

<u>PURGE RATES-Scf/day</u>				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	3225	3132	3103	4177

<u>CONC. 0-616 IN</u>				
<u>PURGE CASCADE</u>				
Top	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}
Side				

<u>POWER LOAD-Mw.</u>				
Total V. F.	139.6	139.9	139.9	137.8
Total 120 V.F.	4.9	4.9	4.9	4.9

<u>0-74 AND DRY AIR-Scf/min.</u>				
0-74 Rate	28.5	39.0	33.3	37.0
Dry Air Rate	4900	5000	4900	5040
Ambient Air Rate	12300	11000	10200	10180

CARBIDE AND CARBON CHEMICALS CORPORATION
Process Division
Process Engineering Department
Production Engineering Section
MAR 27 1947 MAR 28 1947

PART I

Summary of Events

Operations - Recent studies have shown that a building-wise pressure optimization would result in an increase in over-all plant productivity. Accordingly all building pressures, above K-302-1, will be adjusted to the calculated optimum pressures within the next ten days.

The start of this program was effected at 1415 when the pressure of K-302-5 was changed from
The following changes have been made:

<u>Building</u>	<u>Time</u>
K-302-5	1415
K-302-4	1540 to 1700
K-302-2	1540 to 1700
K-302-3	1730 to 1845
K-303-1	1855 to 2005
K-303-10	1855 to 2005
K-303-2	2025 to 2130
K-303-9	2025 to 2130
K-303-3	2135 to 2235
K-303-8	2135 to 2235
K-303-4	2245 to 2400
K-303-7	2245 to 2400
K-303-5	0010 to 0230
K-303-6	0010 to 0230

Cells 3 and 8 and the building lines of building K-302-1 were returned to cascade operation at 2210 on completion of the converter and block valve seat replacements. Cell 7 was on-stream at 0350, and cell 4 at 0755. These cells were put into service at the new optimum pressure for the building. At 0800 the condition of the remaining cells was:

Cell 6 - conditioning
Cell 5 - charging
Cell 2 - conditioning

The consumption test is continuing in K-306-5.4.

The stream efficiency of the separating cascade was 98.7%

Standard Operating Procedure

Sanitary Water Emergency - This procedure outlines the order of consumer reduction which will be effected in case of a sanitary water emergency, requiring a reduction in consumption. Such an emergency might originate by a failure as a result of a line break, low pressure in the system, or a low storage supply.

P. P. H. [Signature]
Operations Office

GWSe11:ovd

PART VI
DAILY PRODUCTION REPORT

Day Ending 0700, 3-28-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	3.201		89.230		
C-5327	2404.364		64078.727		794471.099
<u>USAGES - KgT</u>					
K-25 Waste	607.224		11920.889		
C-616					97724.851
C-936					52917.21
S-50 Waste					1913.83
C-934			11722.039		76663.94
C-5327	463.699		4139.860		223.96
C-5331			10.096		
Class B Material					
<u>SHIPMENTS - KgT</u>					
C-2035	3.180		84.862		
<u>INTERPLANT FLOW</u>					
KgT	2822	2821			
K-310-3.7	5541663	1111610			
K-402-9.3	6640523	1120321			
<u>PURGE RATES-Scf/day</u>					
K-312-1 (Top)	-	-			
K-312-2 (Side)	3087	4291			
<u>CONC. C-616 IN PURGE CASCADE</u>					
Top					
Side	1.0×10^{-6}	1.0×10^{-6}			
<u>POWER LOAD-MW</u>					
Total V.F.	138.0	137.6			
Total 120 V.F.	4.9	4.9			
<u>G-74 AND DRY AIR-Scf/min.</u>					
G-74 Rate	44.1	37.3			
Dry Air Rate	5850	5052			
Ambient Air Rate	12400	10070			

JHRay / mh
JClaycock/

CARBIDE AND CARBON CHEMICALS CORPORATION
Process Division
Process Engineering Department
Production Engineering Section

DAILY OPERATIONS REPORT ON CASCADE

Date of Issue MAR 28 1947

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 3-26-47 to 0900 3-27-47

PART I

Summary of Events

Operations - The building and spare by-pass lines of K-302-1 were purged to a negative analysis by 0840. On completion of the valve seat replacements, the spare by-pass lines were put into service at 2330. By 0800 a negative analysis had been secured on the normal by-pass lines. The status of the converter replacements as of 0800 was:

- Cells 3 and 4 - New converters installed, ready for conditioning.
- Cell 7 - New converters installed, pressure testing.
- Cells 5 and 6 - Original converters cut loose.
- Cells 2 and 4 - Original converters being cut out.

K-301-1.2 was returned to cascade operation at 0900, on completion of the repair of the C-316 leak.

Partially depleted feed was off from 0800 to 1225 as a result of a frozen line. The feed was resumed at an increased rate to make up the deficiency.

The stream efficiency of the separating cascade was 98.5%.

J. J. Mans
Operations Office

GWSell/bbs.

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-27-47

8	<u>Today</u>	<u>Daily Avg.</u> <u>This Month</u>	<u>To Date</u> <u>This Month</u>	<u>Stock</u> <u>Ship</u>	<u>Storage</u>
<u>PRODUCTION - KgT</u>					
G-2035	3.211		86.029		
C-5327	2163.620		61674.373		792531.535
<u>USAGES - KgT</u>					
K-25 Waste	847.354		11313.665		98331.155
C-616	1338.07		35255.64		54347.87
C-936					1913.83
S-50 Waste					76663.94
C-934					223.96
C-5327			11258.340		
C-5331			4139.860		
Class B			10.096		
<u>SHIPMENTS - KgT</u>					
C-2035	3.826		81.682		
<u>INTERPLANT FLOW</u>					
KgT	2822	2821			
K-310-3.7 Cons.	7781637	7781617			
K-402-9.3 Cons.	3380447	4410270			
<u>PURGE RATES - Scf/day</u>					
K-312-1 (Top)	-	-			
K-312-2 (Side)	2754	4337			
<u>CONC. C-616 IN PURGE CASCADE</u>					
Top	-	-			
Side	1.0×10^{-6}	1.0×10^{-6}			
<u>POWER LOAD - Mw.</u>					
Total V.F.	138.4	137.6			
Total 120 V.F.	4.9	4.9			
<u>G-74 AND DRY AIR - Scf/min.</u>					
G-74 Rate	40.9	37.1			
Dry Air Rate	5800	5021			
Ambient Air Rate	13200	9981			

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Process Division
Process Engineering Department
Production Engineering Section

DAILY OPERATIONS REPORT ON CASCADE

Date of Issue MAR 27 1947

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 3-25-47 to 0800 3-26-47

PART I

Summary of Events

Operations - The tails pressures of K-311-1 were between 1755 and 1835, to avoid overload while building K-302-1 was being evacuated in preparation for the converter and valve seat replacement program. K-302-1 was isolated at 2200 and evacuated by 2245. The tails pressures of K-311-1 were then restored by 2353. All cells in K-302-1 were purged to negative analyses by 0720. The cell and building spare bypass lines are being purged. By 0800 the converters had been cut out in cells three and eight. The present converters in the building will be replaced by units tubed with K-27 and the major building block valve seats will be replaced by P-10 seats.

Building K-402-5 was isolated at 0800. A series of direct recycle cascades were set up within the building to determine the separation performance, ψ , of the recently installed barrier. Both these runs were made at the normal pressure level of the building, psia. By 1900, sampling had been completed on the second test, and the building was returned to cascade operation.

K-301-1.2 was isolated at 0935 on indication of a C-816 leak into the process stream. The leak was found in the cooling tubes of #3 converter, and is now being repaired.

K-303-1.4 was isolated from 1339 to 1415 for a static instrument check. This was the last check to be run on this cell, which had been calibrated as part of the plantwide program to determine instrument "drift" or "set".

The stream efficiency of the separating cascade was 98.3%.

GWSell/ga

A. P. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-26-47

	To-day	Daily Avg. This Month	To Date This Month	Ship	Stock Storage
<u>PRODUCTION - K_gT</u>					
C-2035	3.214		82.818		
C-5327	2415.404		59510.753		790369.651
<u>USAGES - K_gT</u>					
K-25 Waste	1064.446		10443.917		<u>Stock</u> Feed Rn. & Storage 99178.509
C-616	1268.19		33917.57		55685.73
C-936					1913.83
S-50 Waste					76663.94
C-934					223.96
C-5327			11258.340		
C-5331			4139.860		
Class B			10.096		
<u>SHIPMENTS - K_gT</u>					
C-2035	5.688		77.856		
<u>INTERDIANT FLOW</u>					
K _g T	2822	2821			
K-310-3.7 Conc.	3341683	2211610			
K-402-9.3 Conc.	6640433	1120261			
<u>PURGE RATES-Scf/day</u>					
K-312-1 (Top)	—	—			
K-312-2 (Side)	3317	4392			
<u>CONC. C-616 IN PURGE CASCADE</u>					
Top	—	—			
Side	1.0x10 ⁻⁶	1.0x10 ⁻⁶			
<u>POWER LOAD-Mw.</u>					
Total V.F.	140.8	137.5			
Total 120 V.F.	4.9	4.9			
<u>G-74 AND DRY AIR-Scf/min.</u>					
G-74 Rate	37.4	36.9			
Day Air Rate	4900	4990			
Ambient Air Rate	13000	9852			

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Process Engineering Department
Production Engineering Section

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 3-24-47 to 0800 3-25-47

PART I

Summary of Events

Operations - The frequency of buildings K-312-1 and K-312-2 was lowered from 40 to 35 cycles during the 8-4 shift. At this frequency the building purge capacities are sufficient to handle the normal daily upflow of light contaminants.

A series of separation performance tests are to be run on the recently installed WL and WB barrier in K-402-5. The tests will be run at the normal tails pressure of the building. In preparation for the first run, K-402-5.5 was evacuated at 0740 to be available for surge capacity for the building when isolated on direct recycle.

The consumption experiments are being continued in K-306-5.4.

The stream efficiency of the separating cascade was 99.7 %.

GWSell/ovd

A. P. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-25-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
PRODUCTION - KgT					
C-2035	3.235		79.604		
C-5327	2236.100		57095.349		787341.481
 USAGES - KgT					
K-25 Waste	283.678		9401.252		<u>Stock</u> <u>Feed Rm. & Storage</u> 100242.955
C-616	1291.30		32649.38		
C-936					1913.83
S-50 Waste					76663.94
C-934					223.96
C-5327	743.697		11258.340		
C-5331			4139.860		
Class B			10.096		
 SHIPMENTS - KgT					
C-2035	6.455		72.168		
 INTERPLANT FLOW					
KgT	2822	2821			
K-402-9.3	8890408	4450254			
K-310-3.7	3341483	4451604			
 PURGE RATES-Scf/day					
K-312-1 (Top)	-	-			
K-312-2 (Side)	3504	4437			
 CONC. C-616 IN PURGE CASCADE					
Top	-	-			
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶			
 POWER LOAD-Mw.					
Total V.F.	142.1	137.4			
Total 120 V.F.	4.9	4.9			
 G-74 AND DRY AIR-Scf/min.					
G-74 Rate	33.9	38.9			
Dry Air Rate	4950	4994			
Ambient Air Rate	11800	9721			

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DAILY OPERATIONS REPORT ON CASCADE

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800, 3-21-47 to 0800, 3-24-47

PART I

Summary of Events

Operations - The frequency of the K-303 section was raised from 64.5 to 64.75 cycles at 0925, March 21. It was further raised to 65 cycles at 1309.

The crude and partially depleted feed rates were returned to normal at 1400 on March 22. These rates had been approximately ten percent above normal since 0130, March 20, in order to make up the deficiency arising from the operations on March 19.

The crude feed point was changed from _____ at 1145 on March 23.

The present _____ in K-302-1 are to be replaced with units containing K-27. It is expected that this program will be started on March 26. At this time the main building and building by-pass block valve seats will also be replaced with P-10 seats.

The stream efficiencies of the separating cascade were:

<u>Day Ending</u> <u>0800</u>	<u>% Efficiency</u>
3-22-47	99.2%
3-23-47	99.6%
3-24-47	99.6%

GWSell/ga

a. B. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

From 0700, 3-21-47
To 0700, 3-24-47

	<u>Three Day Total</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
<u>PRODUCTION - Kgt</u>				
C-2035	9.639		76.369	
C-5327	6787.420		54858.739	786466.462

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES - Kgt</u>			
K-25 Waste	2354.376	9117.574	100524.486
C-616	3998.04	31358.08	58260.87
C-936			1913.83
S-50 Waste			76663.94
C-934			223.96
C-5327	633.905	10514.643	
C-5331		4139.860*	
Class B		10.096	

<u>SHIPMENTS - Kgt</u>		
C-2035	3.208	65.713

	<u>Day Ending 0700, 3-22-47</u>	<u>0700, 3-23-47</u>	<u>0700, 3-24-47</u>	<u>Daily Avg. This Month</u>
--	-------------------------------------	----------------------	----------------------	----------------------------------

<u>INTERPLANT FLOW</u>				
Kgt	2822	2822	2822	2821
K-310-3.7	8841503	3381507	6641513	2231612
K-402-9.3	8860405	4420331	6650384	1120251

<u>PURGE RATES-Scf/day</u>				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	4443	4461	4120	4478

<u>CONC. C-616 IN PURGE CASCADE</u>				
Top	-	-	-	-
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>				
Total V.F.	142.1	142.5	142.5	137.2
Total 120 V.F.	4.9	4.9	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min</u>				
G-74 Rate	50.1	33.9	41.2	37.0
Dry Air Rate	5050	4900	4850	4996
Ambient Air Rate	12400	12500	11700	9830

JHRay/
JCLaycock/ ga

* Corrected

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Process Engineering Department
Production Engineering Section

DAILY OPERATIONS REPORT ON CASCADE

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION

OPERATIONS 0800 3-20-47 to 0800 3-21-47

PART I

Summary of Events

Operations - The frequency of the K-303 Section was raised from 64.00 to 64.25 cycles at 1130. It was further increased to 64.5 cycles at 0210.

K-301-4.5 was off-stream from 1255 to 1330 for an instrument check as part of the program to determine instrument drift or set in the cascade. This was the first check made since the initial calibration of the cell under this investigation.

K-306-5.4 was isolated, evacuated and purged to a negative analysis in preparation for the investigation of consumption.

Cells 5 and 6 and the building lines of K-309-3 were returned to cascade operation at 0015 upon completion of the converter and valve seat replacements. Cell 4 was on-stream at 0344, completing the program.

The stream efficiency of the separating cascade was

99.1%.

GWSell:bed

A. P. Zuber
Operations Office

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-21-47

PRODUCTION KgT	To-day	Daily This Month	To Date This Month	Storage Ship	Storage Storage
C-2035		3.207		66.730	
C-5327	2468.459		48071.319		780316.639

USAGES KgT				Stock	
				Feed Rm. & Storage	
K-25 Waste	151.499		6763.198		102877.635
C-616	1389.68		27360.04		54288.76
C-936					1913.83
S-50 Waste					78663.94
C-934					223.96
C-5327	958.372		9880.738		
C-5331			4140.780		
Class B			10.096		

SHIPMENTS KgT		
C-2035	2.541	62.505

INTERPLANT FLOW		
KgT	2822	2821
K-310-3.7	7731482	7771636
K-402-9.3	7780427	8880237

FURGE RATES-Scf/day		
K-312-1 (Top)	=	=
K-312-2 (Side)	5437	4498

CONC. C-616 IN FURGE CASCADE		
Top	=	=
Side	1.0×10^{-6}	1.0×10^{-6}

POWER LOAD-Mw.		
Total V.F.	140.1	136.4
Total 120 V.F.	4.9	4.9

G-74 AND DRY AIR-Scf/min.		
G-74 Rate	46.9	36.3
Dry Air Rate	5000	5005
Ambient Air Rate	13300	9245

JHray/
JCLaycock/ 8*

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 3-19-47 to 0800 3-20-47

PART I

Summary of Events

Operations - On completion of the installation of P-10 seats in the normal bypass lines of K-309-3, the line was conditioned and returned to service at 2100. The valve seats in the spare lines are now being replaced. At 0800 cell 4 was ready for conditioning. The new converters have been installed in cells 5 and 6 and the welds are being leak tested.

K-402-2.9 was isolated at 1235 to change the 6-A seal. While the seal change was in progress the BOP released flooding the cell with G-74. The A outlet block valve was not holding and the G-74 was pulled to the cascade. The cascade was split at K-301-4.4 from 1845 to 1950 to trap the upflow of G-74. This cell was isolated at 1950. The rest of the G-74 was trapped in the top of K-402-9.

While this was under way the interplant flows were stopped from 2020 to 2200. K-402-9.2 was the isolated with the trapped G-74. In order to complete the seal change in K-402-2.9, building K-402-2 was isolated at 2240 allowing the section of A line at cell 9 to be isolated, permitting the cell to be pressured to atmospheric pressure. On completion of the seal change cell 9 was evacuated and building K-402-2 was returned to cascade operation at 0110.

Because of the above operations crude feed was stopped at 2035, POF at 1850, and waste condensation at 2200. All were resumed by 0130 at approximately 10% above the normal rates in order to make-up the loss.

The frequency of K-312-2 was reduced from 45 to 40 cycles between 0250 and 0340.

The stream efficiency of the separating cascade was 98.9%.

GWSell/bbs

A. P. Huber
Operations Office

PART II
DAIDY PRODUCTION REPORT

Day Ending 0700, 3-20-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	3.208		63.523		
C-5327	2309.293		45602.860		778807.877

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES - KgT</u>			
K-25 Waste		6608.019	103029.134
C-616	1046.27	26970.36	55664.15
C-936			1913.83
S-50 Waste			76663.94
C-934			223.96
C-5327	774.978	8922.366	
C-5331		4140.780	
Class B		10.096	

<u>SHIPMENTS - KgT</u>		
C-2035	5.677	59.964

<u>INTERPLANT FLOW</u>		
KgT	2793	2820
K-310-3.7 Conc.	6691648	1111630
K-402-9.3 Conc.	6650594	4440223

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3545	4449

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶

<u>POWER LOAD-Mw</u>		
Total V.F.	139.1	136.2
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	43.1	35.8
Dry Air Rate	5650	5005
Ambient Air Rate	11100	9032

JH Ray/
JCLaycock/pvd

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 3-18-47 to 0800 3-19-47

PART I

Summary of Events

Operations - The frequency to the top purge building, K-312-1, was lowered from 45 to 40 cycles at 1315. A comparatively small reduction of purge capacity was effected by this operation, but it is expected that the consumption losses will be materially reduced.

Converters tubed with _____ barrier are being installed in building K-309-3 replacing the original units containing P-10 seats are also being installed in the major building and building bypass block valves. In preparation for this program, K-309-3 was changed from the normal to spare process lines at 2100. The building was isolated at 2230 and evacuated to the cascade. During this operation the 1B pump of cell 4 failed. The cells were purged to negative analyses by 0355, and the bypass lines by 0440. At 0800 all converters had been cut loose in cell 4 and two in cell 5.

The stream efficiency of the separating cascade was 99.5%.

GWSell:ovd

A. P. Fisher
Operations Office

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-19-47

<u>PRODUCTION Kgt</u>	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
C-2035		3.715	60.315	
C-5327	2231.397		43293.567	777274.783

<u>USAGES - Kgt</u>			<u>Stock Feed Rm. & Storage</u>
K-25 Waste		6608.019	
C-616	1296.91	24924.09	48702.89
C-938			1913.83
S-50 Waste			76663.94
C-934			223.96
C-5327	1025.228	8147.388	
C-5331		4140.780	
Class B		10.098	

<u>SHIPMENTS - Kgt</u>		
C-2035	3.898	54.287

<u>INTERPLANT FLOW Kgt</u>		
K-310-3.7	5581647	5551634
K-402-9.3	6640483	4450204

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	5550	4499

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V.F.	141.4	136.1
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	33.0	35.4
Dry Air Rate	4950	4969
Ambient Air Rate	8900	8917

JH Ray/ ga
JCLaycock/

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 3-17-47 to 0800 3-18-47

PART I

Summary of Events

Operations - In order that the new all metal line recorder tube racks can be built identically, it has been decided to construct them for the B positions in the line recorder stations. Accordingly all present A tube racks in stand-by condition are to be calibrated and put on stream. All B racks, unless designated for special use, are to be shut down.

K-305-11.3 was off stream from 1155 to 1605 for a dynamic instrument alignment.

A test was run in K-312-3 to determine the performance of the building for the separation of Helium₃ from Helium₄. On completion of the test run, the building was evacuated and shut down by 2100.

The stream efficiency of the separating cascade was 99.6%.


Operations Office

GWSell/lw

SECRET

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-18-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	3.724		56.600		776070.341
C-5327	2238.450		41062.170		
<u>USAGES - KgT</u>					<u>Stock Feed Rm. & Storage</u>
K-25 Waste			6608.019 *		103029.134
C-616	1300.84		23627.18		49982.08
C-936					1913.83
S-50 Waste					76663.94
C-934			7122.160		223.96
C-5327			4140.780		
C-5331	1027.761		10.096		
Class B					
<u>SHIPMENTS - KgT</u>			50.389		
C-2035	6.360				
<u>INTERPLANT FLOW</u>					
KgT	2822	2822			
K-310-3.7 Conc.	3351394	2231632			
K-402-9.3 Conc.	2260265	1120181			
<u>PURGE RATES-Scf/day</u>					
K-312-1 (Top)	-	-			
K-312-2 (Side)	4378	4457			
<u>CONC. C-616 IN PURGE CASCADE</u>					
Top	-	-			
Side	1.0×10^{-6}	1.0×10^{-6}			
<u>POWER LOAD-Mw</u>					
Total V. F.	141.5	135.8			
Total 120 V. F.	4.9	4.9			
<u>G-74 AND DRY AIR-Scf/min.</u>					
G-74 Rate	36.1	35.5			
Dry Air Rate	4950	4971			
Ambient Air Rate	10200	8918			

* Corrected

JHRay/
JCLaycock/pvd

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 3-14-47 to 0800 3-17-47

PART I

Summary of Events

Operations - The drop in tops concentration previously reported curtailed production during the 8-4 shift of March 14. The low point in the concentration decrease was realized during this shift. Through the remainder of the report period the concentration has been steadily building back up.

Operations were mainly directed toward returning those cells, in which pump failures were experienced during the frequency increase, to cascade operation. During the report period several more pump failures occurred in the K-303 section. The frequency to the K-303 section was reduced to 64 cycles at 1155, March 15.

K-312-3 was again valved into the "purge-to-surge" system of Plant II, during the 8-4 shift of March 14, to facilitate purging. By 2305 on March 15, K-312-3 was isolated. The building was purged to a negative analysis by 2020, March 16, and is to be used for a special engineering run to determine the effective separation of helium₃ from helium₄.

Several cascade splits were necessary to trap the upflow of G-74 from K-303 purging operations. A split was effected at K-304-4.4 from 1250 to 1745 on March 15. High G-74 concentration in K-305-12 also necessitated a split at K-306-1 from 1750 to 1940 on March 15.

The feed point for K-25 to K-27 interplant flow has been changed from K-402-8.2 to K-402-9.3 since the 8-4 shift of March 11.

The K-309-3 converter change scheduled for the week of March 17 will be begun on March 19.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0800</u>	<u>Stream Efficiency</u>
3-15-47	98.4%
3-16-47	99.0%
3-17-47	99.5%

J. Amashe
Operations Office

PART II
DAILY PRODUCTION REPORT

From 0700, 3-14-47
To 0700, 3-17-47

	To-day	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
PRODUCTION gKgt					
C-2036	8.869		52.876		
C-5327	6820.234		38823.720		773833.887

			Stock Feed Rm. & Storage
USAGES - Kgt			
K-25 Waste		6595.040	103027.386
C-616	3912.51	22326.34	51289.60
C-936			1913.83
S-50 Waste			76663.94
C-934			223.96
C-5327	2703.989	7122.160	
C-5331	353.601	3114.019	
Class B		10.096	

				Daily Avg. This Month
SHIPMENTS - Kgt				
C-2036	3.187		44.029	
	Day Ending			
	0700, 3-15-47	0700, 3-16-47	0700, 3-17-47	

	Kgt	2822	2822	2822	2822
INTERPLANT FLOW					
K-310-3.7	3321601	4491498	5531402	1151654	
K-402-9.3	6650524	2260345	4490258	2220181	

PURGE RATES-Scf/day				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	5806	5947	4854	4441
K-312-3 *	3420	3250	-	-

CONC. C-616 IN PURGE CASCADE				
Top	-	-	-	-
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

POWER LOAD-Mw.				
Total V.F.	140.4	140.1	141.6	135.4
Total 120 V.F.	4.9	4.9	4.9	4.9

G-74 AND DRY AIR-Scf/min.				
G-74 Rate	46.9	44.1	51.0	35.5
Dry Air Rate	5000	4950	5000	4975
Ambient Air Rate	8200	9600	10000	8838

JHRay/
JClaycook/ 52

* Used to evacuate "purge-to-surge" system.

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CLINTON ENGINEER WORKS

CARBIDE AND CARBON CHEMICALS CORPORATION
Process Division
Process Engineering Department
Production Engineering Section

DAILY OPERATIONS REPORT ON CASCADE

Date of Issue MAR 17 1947

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 3-13-47 to 0800 3-14-47

PART I

Summary of Events

Operations - In order to facilitate the purging of those cells which were shutdown by pump failures during, and as a result of, the frequency increase on March 12, K-312-3 was valved into the "purge to surge" system. This operation effectively increased the capacity of the surge system by 9500 scf/day. the rate at which K-312-3 was purging. The return from this purge building was to the B spare line at K-306-2. During the 12-8 shift, this operation was suspended and the C-616 inventory was being backed out of the building.

K-306-5.4 was returned to cascade operation at 0315, after a temporary suspension of the consumption test. At this time the cell contained approximately the normal inventory at a concentration only slightly above that of the crude feed which had been charged to the cell. Irregularities in the surge system prevented its complete purge and the remaining material was evacuated to the cascade. Shortly after this the tops concentration showed a sharp drop which continued through the report period. This effect has not definitely been associated to this period.

Please note the following corrections of the separating cascade stream efficiency.

<u>Day Ending 0800</u>	<u>Stream Efficiency</u>
3-8-47	99.4%
3-9-47	99.5%
3-10-47	99.8%

The stream efficiency for this report period was 97.7%.

GWSell/ga

A. P. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-14-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
<u>PRODUCTION - Kgt</u>					
C-2035	2.887		44.007		
C-5327	2295.799		32003.486		769721.776

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES - Kgt</u>			
K-25 Waste			103027.386
C-616	1319.45		55202.05
C-936			1913.83
S-50 Waste			76663.94
C-934			223.96
C-5327	278.771	4418.171	
C-5331	740.937	2760.418	
Class B Material		10.096	

<u>SHIPMENTS -Kgt</u>		
C-2035	3.195	40.842

<u>INTERPLANT FLOW</u>		
Kgt	2822	2822
K-310-3.7	7781627	1131682
K-402-9.3	8830542	1120131

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	7343	4188
K-312-3 *	2211	

<u>COG. -cals IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD - Mw</u>		
Total V.F.	139.6	134.2
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	55.2	32.7
Dry Air Rate	4900	4973
Ambient Air Rate	8400	8738

JHRay / mh * Used for evacuating "purge-to-surge " system
JClaycock

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 3-12-47 to 0800 3-13-47

PART I

Summary of Events

Operations - The frequency to sections K-302, K-303 and K-305 was simultaneously increased from 60 to 65 cycles. The schedule during the change follows:

From 60 to 61 cycles	From 0915 to 0927
" 61 to 62 "	" 1005 to 1017
" 62 to 63 "	" 1041 to 1053
" 63 to 64 "	" 1145 to 1157
" 64 to 65 "	" 1235 to 1247

A total of 13 cells were shutdown because of equipment failure resulting from the frequency increase. Following is a tabulation of these cells listing the points of failure.

<u>Cell</u>	<u>Time Off</u>	<u>Failure</u>
K-305- 3.4	1052	2B Seal and motor
K-305-10.6	1055	Motor *
K-303- 6.9	1100	6B pump and motor
K-305-11.6	1155	1A motor and seal
K-303- 1.10	1205	4B pump and motor, 3B pump and motor, 6B motor
K-303- 7.1	1235	1B pump
K-303- 4.8	1240	1B pump and motor
K-305- 1.2	1243	1B motor and seal, 2B seal
K-303- 7.2	1245	4B motor and pump, 5B pump
K-303- 7.10	1245	5B pump and motor
K-303- 1.6	1250	4B pump and motor, 2B motor
K-303- 9.7	1257	3B pump, 3 seals
K-303- 7.8	1300	1B pump and motor

* K-305-10.6 was started and placed on-stream at 1515 without a motor change.

K-303-6.3 was off-stream at 1410 because of the failure of the 1B pump.

K-402-5.6 was off-stream from 1445 to 1605 in order to make the final check on the cell instrumentation as part of the plantwide program to investigate instrumentation "drift".

The stream efficiency of the separating cascade was 97.9%.

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-13-47

	To-Day	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
PRODUCTION - K_gT					
C-2035	3.208		41.120		
C-5327	2286.292		29707.687		767706.729
USAGES - K_gT					
K-25 Waste	330.508		6595.040		Stock Feed Rm. & Storage
C-616	1288.12		17094.38		103027.386
C-936					56521.98
S-50 Waste					1913.83
C-934					76663.94
C-5327			4139.400		223.96
C-5331	639.732		2019.481		
Class B			10.096		
SHIPMENTS-K_gT					
C-2035	3.236		37.647		
INTERPLANT FLOW					
K _g T	2822	2822			
K-310-3.7 Conc.	5531682	1121681			
K-402-8.2 Conc.	*	1120101			
PURGE RATES-Scf/day					
K-312-1 (Top)	--	--			
K-312-2 (Side)	4454	3925			
CONC. C-616 IN					
PURGE CASCADE					
Top	--	--			
Side	1.0x10 ⁻⁶	1.0x10 ⁻⁶			
POWER LOAD-Mw.					
Total V.F.	138.5	133.7			
Total 120 V.F.	4.9	4.9			
G-74 AND DRY AIR-Scf/min.					
G-74 Rate	67.8	30.9			
Dry Air Rate	4900	4979			
Ambient Air Rate	7800	8767			

* No Sample

JHRay /bbs
JCLaycock/

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Process Engineering Department
Production Engineering Section

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 3-11-47 to 0800 3-12-47

PART I

Summary of Events

Operations - Building K-309-3 was off-stream from 1115 to 1140 in order to check the building block valves for seat leakage. It is expected that the converters in this building will be replaced as part of the general barrier improvement program in K-25.

K-305-9.3 was off-stream from 1125 to 1540 for an instrument alignment.

The stream efficiency of the separating cascade was 99.7%.

John A. Lee
Operations Office

GWSell/mh

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-12-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
<u>PRODUCTION - KgT</u>					
O-2035	3.241		37.912		
C-5327	2253.477		27421.395		765422.510
 <u>USAGES - KgT</u>					
K-25 Waste	997.013		6264.532		<u>Stock</u> <u>Feed Rm. & Storage</u> 103357.894
C-616	1258.26		15806.25		49547.00
C-936					1913.83
S-50 Waste					76663.94
C-934					223.96
C-5327			4139.400		
C-5331			1379.749		
Class B			10.096		
 <u>SHIPMENTS - KgT</u>					
C-2035	6.268		34.411		
 <u>INTERPLANT FLOW</u>					
KgT	2822	2822			
K-310-3.7	7751374	1131682			
K-402-8.2	2250124	1120101			
 <u>PURGE RATES-Scf/day</u>					
K-312-1 (Top)	-	-			
K-312-2 (Side)	3027	3877			
 <u>CONC. C-616 IN PURGE CASCADE</u>					
Top					
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶			
 <u>POWER LOAD-Mw</u>					
Total V.F.	133.7	133.3			
Total 120 V.F.	4.9	4.9			
 <u>G-74 AND DRY AIR-Scf/min.</u>					
G-74 Rate	27.9	27.5			
Dry Air Rate	4850	4986			
Ambient Air Rate	9200	8855			

JHray /
JClaycock / sh

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WANSIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 3-10-47 to 0800 3-11-47

PART I

Summary of Events

Operations - K-306-5.4 was isolated and purged to a negative analysis in preparation for a long range test program to determine the consumption rate under known conditions. The cell was then charged with a known amount of crude feed. Periodically the inventory of the cell will be withdrawn and weighed.

Mechanical failure of the #1 mill of powerhouse boiler #1 resulted in a frequency decrease of .3 cycles to the entire K-25 cascade, except the K-306 section, from 1745 to 1747. The fast restoration of frequency was accomplished by dropping load from Generator #7 which is tied into TVA.

The steam efficiency of the separating cascade was 99.8%.

A. P. Zanker
Operations Office

GWBell:ovd

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-11-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
<u>PRODUCTION - K₂T</u>					
C-2035	3.214		34.671		
C-5327	2256.544		25167.918		763171.315
<u>USAGES - K₂T</u>					
K-25 Waste	999.774		5267.519		<u>Stock</u> <u>Feed Rm. & Storage</u> 104354.907
C-616*	1299.70		14548.00		50805.03
C-336					1913.83
S-50 Waste					76663.94
C-934					223.96
C-5327			4139.400		
C-5331			1379.749		
Class B			10.096		
<u>SHIPMENTS - K₂T</u>					
C-2035	6.450		28.143		
<u>INTERPIANT FLOW</u>					
K ₂ T		2822	2822		
K-310-3.7 Conc.	8841743		1111710		
K-402-8.2 Conc.	7720031		1110100		
<u>PURGE RATES-Scf/day</u>					
K-312-1 (Top)	—		—		
K-312-2 (Side)	3536		3962		
<u>Conc. C-616 IN</u>					
<u>PURGE CASCADE</u>					
Top					
Side	1.0x10 ⁻⁶		1.0x10 ⁻⁶		
<u>POWER LOAD-Mw.</u>					
Total V.F.	134.1		133.3		
Total 120 V.F.	4.9		4.9		
<u>G-74 AND DRY AIR-Scf/min.</u>					
G-74 Rate	27.9		27.5		
Dry Air Rate	4950		5000		
Ambient Air Rate	9200		8820		

* Crude feed concentration adjusted to 1137053%, effective March 1.

JHRay /bbs
JCLaycock

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Process Engineering Department
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CARRIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 3-7-47 to 0800 3-10-47

PART I

Summary of Events

Operations: - The PDF feed point was changed at 1145 March 7. When the C-816 concentration was found to be high in PDF cylinder #A-3842, a new cylinder was started to at 1140 March 8.

The feed point in K-25 receiving the interplant flow from K-27 was changed from K-310-3.2 to K-310-3.7 at 1340 on March 9.

There has been no further trouble encountered from the lube system in K-305-2. It is felt that the Purolator plugging may have been caused from sediment stirred up in the storage drum by the addition of new oil on March 7. A centrifuge has been operated approximately 20 hours on the storage drum of the building. Cell 1 was floated on-stream approximately two hours, 3-8, while the oil filters were changed on the 4-B and 6-B pumps. Cell 7 was returned to cascade operation at 2145, 3-7; cell 9 at 1635, 2-8; and cell 10 at 2050, 3-9. On this last cell it was necessary to change the 5-A pump.

Product withdrawal was curtailed during the 4-12 shift of March 7, because of pressure variations in stage 6 of K-306-7.8. These variations were a result of faulty stage 4 control valve in cell 6, which made it necessary to bypass the cell on three occasions for a total of approximately 2.4 hours.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
3-8-47	99.5%
3-9-47	99.7%
3-10-47	99.9%

GTSell/bbs

A. P. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

From 0700, 3-7-47
To 0700, 3-10-47

Production	KgT	Three Day Total	Daily Avg. This Month	To Date This Month	Ship	Stock Storage
C - 2035		9.632		31.457		
C --5327		6819.007		22911.374		760914.771

USAGES - KgT				Stock Feed Rm. & Storage
K-25 Waste	1508.861		4267.745	105354.681
C-616	3931.52		13248.30	52116.32
C-936				1913.83
S-50 Waste				76663.94
C-934				223.96
C-5327	1381.129		4139.400	
C-5331	117.765		1379.749	
Class B Material			10.096	

SHIPMENTS - KgT		
C-2035	3.131	21.693

INTERPLANT FLOW KgT	Day Ending 0700, 3-8-47	0700, 3-9-47	0700, 3-10-47	Daily Avg. This Month
K-310-3.2, .7	6631812	8831762 *	3341503 *	1111700
K-402-8.2 Conc.	1140083	9920131	7720121	1110100

PURGE RATES Scf/day				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	5485	5670	3642	4010

CONC. C-616 IN PURGE CASCADE				
Top				
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

POWER LOAD-Mw				
Total V.F.	133.1	132.9	133.2	133.2
Total 120 V.F.	4.9	4.9	4.9	4.9

G-74 AND DRY AIR-Scf/min.				
G-74 Rate	34.9	26.9	24.1	27.4
Dry Air Rate	4950	4950	4850	5006
Ambient Air Rate	7600	7700	9100	8778

J Ray/
Laycock/ ovd

* K-310-3.7

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 3-6-47 to 0800 3-7-47

PART I

Summary of Events

Diversion Control -- Effective at 0800 March 10, 1947, a new pass system for Plant II RR Area will be in effect. At this time all personnel not regularly scheduled to work in the RR Area, with the exception of the Plant General Foreman, will be allowed entry only upon presentation of a properly authorized Plant II RR Area Pass at the K-312-3 change house portal. Passes will be issued by designated members of Plant II Supervision.

No type of work order will be considered proper authorization to enter the RR Area.

In the event of any emergency in the RR Area, the Plant General Foreman or any member of Plant II Supervision authorized to issue RR Area Passes, may declare that a state of emergency exists in the RR Area. At such a time, anyone in the classifications listed below may enter without a Plant II RR Area Pass:

1. Plant II Supervision presenting a Plant II badge and an emergency pass.
2. All operations, maintenance, and service personnel designated by the Plant General Foreman or Plant II Supervision.

All personnel who enter the RR Area under these emergency rulings must leave through the guard portal where they will be searched and their reason for entering the area verified.

Standard Operating Procedures -- The following Standard Operating Procedures are being distributed:

Power Failure to the K-400 Section and K-631 -- This procedure has been revised and now stipulates that affected buildings shall be isolated with the building by-pass valves closed. The building G-74 service header pressure may be reduced to 3 psig during an extended failure. Interplant flow will be continued if buildings K-402-8 and K-402-9 are not affected by the failure. A procedure for power failure in K-631 is also included.

K-27 Shutdown and Startup with Communication -- The K-731 Control Room Foreman will take the necessary protective steps upon the occurrence of any power emergency and will notify the Plant General Foreman. The re-energization of the electrical system will be directed by the Plant General Foreman through the Electrical System Operator.

SECRET

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-2-

K-25 Shutdown and Startup with Communication - This procedure follows the same outline as above, except of course the K-704 Control Room Foreman will be concerned.

Power Failure to K-1101 and K-1201 - In event of a complete power failure to the Air Conditioning and Compressor Plants, breakers will be cleared and the equipment will be prepared for startup.

Operations - Power was lost to the A motors of K-306-4.2,.4 and K-306-5.2,.4 at approximately 0054. This occurred when feeder 403 was taken out of service for a dielectric absorption test. The other feeder supplying this network, 402, had been out previously for the test. Upon its return to service, the secondary breaker had shown a closed indication, but apparently was not closed since there was no power to the network when feeder 403 was removed.

Building K-306-4 was isolated from 0100 to 0140. The B motors of the four affected cells were stopped and the cells were isolated at 0113. Meanwhile the secondary breaker of feeder 402 was replaced. The four cells were started and on-stream by 0450. Feeder 403 was then removed from service as originally planned.

A partial lube oil failure occurred in K-305-2. K-305-2.7 was taken off-stream at 1425 when the 4B seal went bad apparently caused by the 4B pump failure. The seal was changed. On the 12-8 shift, faulty lube supply caused the shutdown of cells 7, 9 and 10. The motor and 5B bearing are to be replaced on cell 7. The 5A bearings, pump and seals will be replaced on cell 10. No immediate cause was found for this partial failure. The centrifuge will be operated on the lube storage drum during the 8-4 shifts.

The stream efficiency of the separating cascade was 99.6%.

A. P. Huber
Operations Office

GWSell/mh

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-7-47

	To-day	Daily Avg. This Month	To Date This Month	Stock Ship & Storage
<u>PRODUCTION - Kgt</u>				
C-2035	8.132		21.925	
C-5327	2406.204		16092.367	755479.619

			Stock Feed Rm. & Storage
<u>USAGES - Kgt</u>			
K-25 Waste	-	2758.684	106863.642
C-616	1323.48	9316.78	48028.82
C-936			1913.83
S-50 Waste			76663.94
C-934			223.96
C-5327	-	2758.271	
C-5331	998.853	1261.984	
Class B Material	-	10.096	

<u>SHIPMENTS - Kgt</u>		
C-2035	1.539	18.562

<u>INTERPLANT FLOW</u>		
Kgt	2822	2822
K-310-3.2 Conc.	331813	2221721
K-402-8.2 Conc.	3310158	2130102

<u>PURGE RATES - Sof/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3579	3548

CONC. C-616 TH		
<u>PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-3}	1.0×10^{-6}

<u>POWER LOAD - Kw</u>		
Total Voff	33.8	133.2
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Sof/min.</u>		
G-74 Rate	25.7	26.8
Dry Air Rate	9100	9050
Ambient Air Rate	9800	9100

JHray
JCLaycock/ mn

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Process Engineering Department
Production Engineering Section

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800, 3-5-47 to 0800, 3-6-47

PART I

Summary of Events

Operations - A V.F. power failure shut down the K-309 and K-301 sections at 1632. The failure resulted from a voltage drop and surge from generator #3, operating on bus C, supplying the B motors of the above sections. This voltage variation apparently was a result of a failure in the exciter of #3 generator, which had just been returned to service replacing a temporary steam-driven exciter. Although this failure was only on the bus to the B motors, the process interlock connection also shut down the A motors.

Power was restored at 1655. At this time the buildings in each section were re-valved to normal on-stream position. All cells were started between 1605 and 1635. At 1637 the cascade was rejoined between K-310-1 and K-309-3. The tie-in between K-309-1 and K-301-1 was effected at 1640. At 1655 the final split was re-made between K-301-5 and K-302-1. In order to control the up-flow of G-74, the A outlet of K-302-1.4 was partially closed until 1840.

The crude feed point was shifted from _____ at 2015. Partial-
ly depleted feed was changed to _____ during the 12-8 shift.

The stream efficiency of the separating cascade was 99.7%.

GWSell/ga

John A. Hall
Operations Office

PART III
DAILY PRODUCTION REPORT

Day Ending 0700, 1-6-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
PRODUCTION - KgT				
C-2036	3.108		18.837	
C-5327	2385.100		17688.163	753076.178
 USAGES - KgT				
K-25 Waste	783.334		2738.884	106863.542
C-618	1394.35		7803.32	49386.25
C-936				1913.83
S-50 Waste				76633.94
C-934				223.36
C-5327			2758.271	
Class B Material			.117	
C-5331	263.131		227.131	
 SHIPMENTS - KgT				
C-2036	3.370		18.023	
 INTERPLANT FLOW				
KgT	2822	2822		
K-310-3.2	2241813	2241703		
K-402-8.2	3350224	7770200		
 PURGE RATES-Sec/day				
K-312-1 (Top)	-	-		
K-312-2 (Side)	3488	3582		
 CONC. C-618 IN PURGE CASCADE				
Top				
Side	1.0×10^{-6}	1.0×10^{-6}		
 POWER LOAD-Mw				
Total V.F.	130.4	133.1		
Total 120 V.F.	4.9	4.9		
 G-74 AND DRY AIR-Sec/min.				
G-74 Rate	27.9	27.0		
Dry Air Rate	5375	5040		
Ambient Air Rate	8700	9360		

WRay/
JCLaycock/

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PROCESS DIVISION
OPERATIONS C800, 3-4-47 to C800, 3-5-47

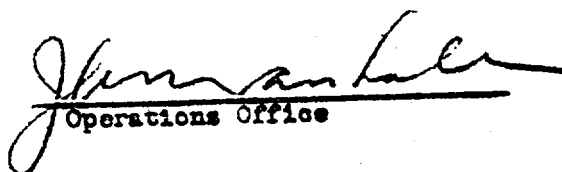
PART I

Summary of Events

Operations - K-306-8.4 was returned to cascade operation at 1930.
The test to determine an accurate consumption rate has been temporarily delayed.

K-306-9.1 was off-stream from C840 to 1410 for an instrument alignment.

The stream efficiency of the separating cascade was 99.7%.


Operations Office

GWS:ll/ga

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-5-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
PRODUCTION - Kgt				
C-2035	3.220		15.504	
C-5327	2345.641		11321.054	750714.182

			<u>Stock Feed Rm. & Storage</u>
USAGES - Kgt			
K-25 Waste	597.411	1972.560	* 107649.866
C-516	1303.23	6598.97	50775.32
C-936			1913.88
S-50 Waste			76663.94
C-934			223.96
C-5327	370.468	2758.271	
Class B Material		10.096	

SHIPMENTS - Kgt		
C-2035	6.418	12.153

<u>INTERPLANT FLOW</u>		
Kgt	2822	2822
K-510-3.2	7741793	7711580
K-402-8.2	1160175	1120071

<u>PURGE RATES-Scf/day</u>		
K-512-1 (Top)	-	-
K-512-2 (Side)	3706	3505

<u>CONC. C-516 IN PURGE CASCADE</u>		
Top	1.0×10^{-5}	1.0×10^{-6}
Side		

<u>POWER LOAD-Mw.</u>		
Total V.F.	133.9	133.3
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	27.3	28.8
Dry Air Rate	5075	4956
Ambient Air Rate	10300	9525

* Corrected

JHRay/
JClaycock/ ga

CLINTON ENGINEER WORKS

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS CS00 3-3-47 to CS00 3-4-47

PART I

Summary of Events

Operations - The crude feed rate was restored to 3.5 pound units per hour at 0700. The rate had been raised to approximately four pound units per hour on February 27, in order to make up the deficiency caused by the feed stoppage in preparation for the separation performance test in K-402-7.

The alarm indicators installed on the cell panel boards to warn of high seal feed pressures are being changed to indicate a low seal exhaust pressure. It is expected that this indication will prove more valuable for detecting seal failures.

The stream efficiency of the separating cascade was 89.7%.

GWSell/ga

J. M. Van Hook
Operations Office

SECRET

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 3-4-47

	Today	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
<u>PRODUCTION - KgT</u>					
C-2035	3.214		12.284		
C-5327	2475.205		8977.413		751129.812
 <u>USAGES - KgT</u>					
K-25 Waste	79.430		1375.149		
C-616	1440.16		5295.74		
C-936					
S-50 Waste					
C-934					
C-5327	1008.361		2387.803		
Class B Material			10.096*		
 <u>SHIPMENTS - KgT</u>					
C-2035	5.737		5.737		
 <u>INTERPLANT FLOW</u>					
KgT	2822	2822			
K-3103.2 Conc.	3361725	1131652			
K-402-8.2 Conc.	1180137	1120041			
 <u>PURGE RATES-Scf/day</u>					
K-312-1 (Top)	--	--			
K-312-2 (Side)	4848	3573			
 <u>CONC. C-616 IN</u>					
<u>PURGE CASCADE</u>					
Top	--	--			
Side	1.0x10 ⁻⁶	1.0x10 ⁻⁶			
 <u>POWER LOAD-Mw.</u>					
Total V.F.	133.7	133.8			
Total 120 V.F.	4.9	4.9			
 <u>G-74 AND DRY AIR-Scf/min.</u>					
G-74 Rate	26.9	26.6			
Dry Air Rate	5000	4917			
Ambient Air Rate	9400	9267			

* Corrected

JHRay
JClaycock/bbs

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-28-47 to 0800 3-3-47

PART I
SUMMARY OF EVENTS

Operations - Approximately fifty percent of the standard Line Recorder Station tube racks have been placed on residual operation. Those tube racks nearest the Line Recorder Station micromax panels remain in on-stream operation. If any trouble develops in the normal on-stream tube rack, requiring its isolation, the standby rack may be placed in service after permission is secured from Day Supervision or the T.A.G. Foremen. A complete log will be kept of such changes. When normal tube racks are taken off-stream, they are to be taken completely out of service and will be replaced by metal tube racks as available.

The complete monthly plant inventory was taken at 1300, February 28. Crude feed, depleted feed and waste condensation were stopped from 1245 to 1415.

The feed of Class B enriched material was continued to K-310-3.2 until March 2, at which time the present schedule was completed.

The depleted feed point was changed from at 1635,
March 2, 1947.

K-306-5.4 was isolated and purged to a negative analysis during the 12 - 8 shift on March 3. A series of test runs will be made in this cell in an attempt to determine an accurate consumption rate.

The stream efficiency for the period ending 0800, February 27, 1947, was in error. The corrected efficiency is 97.6%.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
3-1-47	99.9%
3-2-47	100.0%
3-3-47	99.8%

GHSell:bd

John M. Smith
Operations Office

PART II
DAILY PRODUCTION REPORT

From 1300, 2-28-47
To 0700, 3-3-47

	<u>Three Day Total</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
<u>PRODUCTION KgT</u>				
C-2035	9.070		9.070	
C-5327	6502.208		6502.208	748656.134
				<u>Stock Feed Rm. & Storage</u>
<u>USAGES KgT</u>				
K-25 Waste	1295.719		1295.719	108326.707
C-616	3855.58		3855.58	49379.99
C-936				1913.85
S-50 Waste				76663.94
C-934				223.86
C-5327	1379.442		1379.442	
Class B Material	10.592		10.592	
<u>SHIPMENTS KgT</u>				
C-2035		<u>Daily</u>		
	<u>Day Ending</u>	<u>Avg.</u>	<u>Day Ending</u>	<u>Day Ending</u>
	0700, 3-1-47	Feb. 1947	0700, 3-2-47	0700, 3-3-47
<u>INTERPLANT FLOW</u>				<u>Daily Avg. This Month</u>
KgT	2822	2784	2822	2822
K-310-3.2	2241563	1111560	1181637	1131632
K-402-8.2	7739963	4449964	1160005	2230012
<u>PURGE RATES-Sof/day</u>				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	3255	3507	2806	2935
<u>CONC. C-616 IN PURGE CASCADE</u>				
Top	-	-	-	-
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}
<u>POWER LOAD-Mw</u>				
Total V.F.	133.3	132.6	133.9	133.8
Total 120 V.F.	4.9	4.9	4.9	4.9
<u>G-74 AND DRY AIR Sof/min.</u>				
G-74 Rate	25.0	37.3	25.0	26.5
Dry Air Rate	4950	5209	4900	4875
Ambient Air Rate	9700	11014	8700	9200

JH Ray/
JCLaycock/

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-27-47 to 0800 2-28-47

PART I

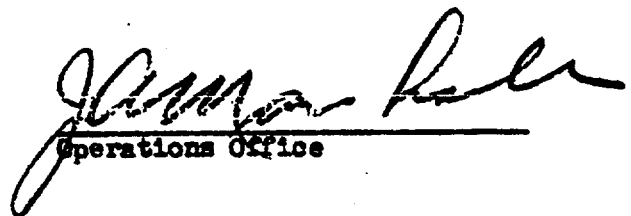
Summary of Events

Operations - The last four cells in K-311-1 were placed on-stream on completion of the scheduled converter replacements. Cell 9 was on cascade at 0955, cell 7 at 0400, cell 5 at 0535, and cell 3 at 0630.

The feed of class B enriched material was continued to K-310-3.2.

The crude feed and the partially depleted feed rates were increased to make up part of the deficiency which resulted from the feed stoppage in preparation for the psi (P) test in K-402-7.

The stream efficiency of the separating cascade was 99.0%.


Operations Office

GWSell/cl

PART II

DAILY PRODUCTION REPORT

From 0700, 2-27-47
To 1300, 2-28-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	3.917		82.626		
C-5327	3065.257		42409.415		742157.1

			<u>Stock Feed Rm. & Storage</u>
<u>USAGE - KgT</u>			
K-25 Waste	70.843	5507.954	109627.333
C-616	1785.67	35801.21	53242.98
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86
C-2035		44.9	
Class B Material	19.281	21.314	
C-5331	1380.06	1380.06	

<u>SHIPMENTS - KgT</u>		
C-2035	6.372	80.395

Day Ending
0700, 2-28-47

INTERPIANT FLOW

	<u>2822</u>	<u>2784</u>
K-402-9 Conc.	4461485	1111380
K-311-1 Conc.	7751004	1120381

PURGE RATES-Scf/day

K-312-1 (Top)	—	—
K-312-2 (Side)	3923	3516

CONC. C-616 IN
PURGE CASCADE

Top	—	—
Side	1.0x10 ⁻⁶	1.0x10 ⁻⁶

POWER LOAD-Mw.

Total V.F.	131.6	132.6
Total 120 V.F.	4.9	4.9

G-74 AND DRY AIR-Scf/min.

G-74 Rate	40.3	37.7
Dry Air Rate	5200	5219
Ambient Air Rate	9800	11063

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-26-47 to 0800 2-27-47

PART I

Summary of Events

Operations - The frequency of sections K-303, K-305, K-310 and K-311 was dropped 1.5 cycles when generator #5 dropped out at 1500 because of trouble developed in the condenser. After the generator was back on the line, frequencies were brought back to normal, starting at 1535.

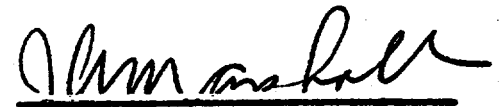
The separation performance, psi (14), test was run in K-402-7 at pressure levels: The building was returned to normal cascade operation at 2345.

Cells 8 and 10 in K-311-1 were returned to cascade operation at 1045 and 1710 respectively upon completion of the converter replacements. At 0800, February 27, cell 9 was conditioning, cell 7 was ready for conditioning, and welding was proceeding on the new converters in cells 5 and 3.

Glass B enriched feed was started to K-310-3.2 at 2100.

The stream efficiency for the period ending 0800 February 25 was 97.1%. It had been reported as 97.2%.

The stream efficiency of the separating cascade, for this report period, was 97.3%.


Operations Office

GWS:ell/mh

PART II
DAILY PRODUCTION REPORT
Day Ending 0700, 2-27-47

	<u>To-Day</u>	<u>Daily Avg.</u> <u>This Month</u>	<u>To Date</u> <u>This Month</u>	<u>Ship</u>	<u>Stock</u> <u>Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	3.186		78.709		
C-5327	2293.039		39344.158		739094.152

			<u>Stock</u> <u>Feed Rn. & Storage</u>
<u>USAGES - KgT</u>			
K-25 Waste	1029.522	5437.111	109693.269
C-616	1249.98		46757.28
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86
C-2035		.449	
Class B Material	2.033	2.033	

<u>SHIPMENTS - KgT</u>		
C-2035	3.819	74.023

Daily Avg.
This Month

INTERPLANT FLOW

KgT	2822	2783
K-402-9 Conc.	1161355	1121381
K-311-1 Conc.	1160795	1120361

PURGE RATES-Scf/day

K-312-1 (Top)	-	-
K-312-2 (Side)	3461	3501

Conc. C-616 IN
PURGE CASCADE

Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

POWER LOAD-Mw.

Total V. F.	130.4	132.7
Total 120 V.F.	4.9	4.9

G-74 AND DRY AIR-Scf/min.

G-74 Rate *	44.4	37.6
Dry Air Rate	5700	5219
Ambient Air Rate	10300	11112

JHRay/ /lw
JCLaycock/

* G-74 rate for day ending 0700, 2-26-47, was 38.0 scf/min.

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Production Engineering Section

DAILY OPERATIONS REPORT ON CASCADE

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

Operations 0800 2-25-47 to 0800 2-26-47

Part I

Summary of Events

Operations - K-311-1.2 and the building process lines were put on stream at 2220 upon completion of the converter changes and the process block valve seat replacements respectively. Cell 6 was returned to cascade operation at 0230, and cell 4 at 0600. Cells 8 and 10 were started on their conditioning cycles at 0300 and 0700 respectively.


A psi (✓) test is to be run in K-402-7 starting at 0800, February 26. to determine the separation performance of the K-27 at pressure levels

In preparation for this run, crude and depleted feeds were stopped at 2330 in order that the K-631 surge drums could be pulled down to receive the additional inventory from the partial evacuation of K-402-7. By 0320 the surge drums had dropped to 1.0 psia and waste condensation was suspended. At 0630 K-402-7 was isolated and the evacuation to the test level was started.

K-303-1.4 was shut down for a static check of the cell instrumentation, which had been calibrated on February 10, as part of the plantwide program to investigate instrumentation "drift" and error.

The monthly plant inventory will be taken at 1300 on February 28.

The stream efficiency of the separating cascade was 98.3%.


Operations Office

GSell/lw

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-26-47

	<u>To-day</u>	<u>Daily Avg.</u> <u>This Month</u>	<u>To Date</u> <u>This Month</u>	<u>Stock</u> <u>Ship</u>	<u>Storage</u>
PRODUCTION - K&T					
C-2035	3.208		75.523		
C-5327	2244.891		37051.119		796801.113

			<u>Stock</u> <u>Feed Rm. & Storage</u>
USAGES - K&T			
K-25 Waste	901.329	4407.589	110722.91
C-616	995.96	32765.56	48008.18
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86
C-2035		449	

SHIPMENTS - K&T		
C-2035	5.997	70.204

INTERPLANT FLOW		
K&T	2822	2781
K-402-9 Conc.	7741483	1111380
K-311-1 Conc.	7720851 *	1120341

PURGE RATES - Scf/day		
K-312-1 (Top)	-	-
K-312-2 (Side)	2833	3502

CONC. C-616 IN PURGE CASCADE		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

POWER LOAD - Mw		
Total V.F.	129.6	132.7
Total 120 V.F.	4.9	4.9

G-74 AND DRY AIR - Scf/min.		
G-74 Rate	44.1	37.6
Dry Air Rate	5700	5200
Ambient Air Rate	10400	11144

JHRay /
JCLay cock / mh

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 2-24-47 to 0800 2-25-47

PART I

Summary of Events

Operations - The scheduled shutdown of the K-310 section was effected to permit an inspection and overhaul of V. F. bus 7-8 at the powerhouse. Following is the schedule of operations performed for this outage. At 0815 K-27 was isolated, crude and depleted feeds were stopped. The K-600 section was isolated at 0830. At this time the cascade was split between K-309-3 and K-310-1 by closing the sectional block valves. The building inverse recycle valves were opened in K-309-3 to provide surge capacity for the cascade.

At 0832 the K-310 buildings were isolated on inverse recycle and shutdown allowing the V. F. power to be dropped from bus 7-8. K-310-1 was tied into K-309-3 at 0925 to provide further surge relief.

Upon completion of the inspection and overhaul of V. F. bus 7-8, power was restored to the K-310 section at 1450 and the cells in the section were started. By 1530 the K-600 building was tied into the bottom of K-310-3. This section was joined to the bottom of K-309-3 at 1610, and the inverse recycle valves of K-309-3 were closed.

K-27 was tied into K-310-3 at 1710. The K-601 to K-27 interplant flow was started at 1715. This line appeared slightly plugged, requiring the flow orifice to be bypassed until 1900. At 1730 crude and depleted feeds were resumed, completing the program of operations.

During this shutdown a series of tests and investigations were run to secure information available only during such an outage.

Data were secured in all K-310 buildings to determine if an instrument bias exists. In the case of each building, an instrument test wagon was connected to the building datum system and a second wagon was connected to the line recorder manifold to secure an accurate static pressure reading. For purposes of comparison readings were then taken from all the high side pressure recorders. Analyses of these tests are not yet available.

Another test was run to determine the amount of normal inleakage which can be expected under shutdown conditions. As the cells in the section were shutdown, the seal feed pressures were regulated to .5 psi above the static pressures in the cells. The seal exhaust pressures were regulated to .25 psi above the cell shutdown pressures. Results of this test should represent the minimum inleakage to be expected during any future emergency shutdowns.

The scheduled converter and valve-seat replacements are proceeding according to schedule in K-311-1. Upon completion of the installation of the P-10 seats in the K-311-1 building normal block valves, the line was conditioned and put into service from K-309-3 to K-600, in order that the spare building block valves at K-311-1 could be replaced. Evacuation of the A and B spare bypasses was started to K-600 through a K-311 intersectional cell pump at 0445. However, this program was temporarily held up when it was found that the A spare outlet and B spare inlet block valves of K-310-1 had not been fully closed during the changeover and inventory was being pulled from the cascade to K-600. K-310-3 was isolated on inverse recycle between 0450 and 0512 while K-600 was isolated. The interplant flow was also stopped for this interval. By 0800 a negative analysis was secured on the spare bypass lines.

At 0800, February 25, the status of the converter change in K-311-1 was as follows:

- Cell 2 - conditioning
- Cell 4 - repairing leaks at converter welds
- Cell 6 - new converters welded in
- Cell 5 - new converters placed

The pressure level of K-402-1 was raised from an average
The following conditions were established.

The high side pressure of K-306-7.6 was adjusted
G-74 surge capacity.

to provide more

K-306-1.11 was off-stream for a dynamic instrument check.

A test is under-way in K-312-1.3 to secure further data on consumption losses at 60 cycle operation.

The stream efficiency of the separating cascade was 97.2%.

GHSell:ovd

A. P. Zuber
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-25-47

	<u>To-day</u>	<u>Daily Avg.</u> <u>This month</u>	<u>To Date</u> <u>This Month</u>	<u>Stock</u> <u>Ship</u>	<u>Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	2.960		72.315		
C-5327	1536.155		34806.228		734556.900

			<u>Stock</u> <u>Feed Rn & Storage</u>
<u>USAGES - KgT</u>			
E-25 Waste	777.431	3906.260	111624.129
C-616	848.35	31769.60	40723.47
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86
C-2035		.449	

<u>SHIPMENTS - KgT</u>		
C-2035	5.264	64.207

<u>INTERPLANT FLOW</u>		
KgT	1764	2780
E-402-9 Conc.	5571626	4441383
E-311-1 Conc.	4421231 *	6660355

<u>PURGE RATES - Sec/day</u>		
E-312-1 (Top)	-	-
E-312- (Side)	2970	3530

<u>CONC. C-616 IN</u>		
<u>PURGE CASCADE</u>		
Top		
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw</u>		
Total V.F.	125.5	132.9
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Sec/min.</u>		
G-74 Rate	27.3	37.3
Dry Air Rate	5400	5179
Ambient Air Rate	10600	11175

* E-310-3.2

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JCLaycock/ mh

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-21-47 to 0800 2-24-47

PART I

Summary of Events

Operations - The motor-generator set in K-312-1 was shutdown for maintenance. In order to accomplish this with as little interruption of top purging as possible, the frequency of the building was raised from 45 to 60 cycles between 0835 and 0935, 2-21-47. When an attempted change was made from the motor-generator set to the constant frequency system, the building dropped from service. K-312-1 was then started, on the constant frequency system at 1040 and resumed top purge service by 1120. Upon completion of the repairs to the motor-generator set, the building was returned to this power at 1230. The frequency was restored to 45 cycles by 1430.

Partially depleted feed was started to at 1300 on February 21. Until further notice the feed of this material will continue at a rate of 65.2 pound units per day.

K-302-5 was isolated on inverse recycle by accidental operation of the supervisory controls on February 22. The building was returned to cascade operation within .17 hours.

In preparation for the K-311 and K-310 shutdowns, the cascade was changed to spare process line operation from the bottom of K-309-3 to K-601 on February 21. K-311-1 was isolated at 2225, 2-23-47 and evacuated by 2245. By 0545, 2-24-47, all cells in the building had been purged to negative C-616 analyses. The present converters in the building are to be replaced with units containing The seats of the main building process block valves will also be replaced by P-10 seats. By 0800, the new converters were placed in cell 2, and the old converters were cut out of cell 4.

The stream efficiencies of the separating cascade during this report period follow:

<u>Day Ending 0800</u>	<u>Stream Efficiency</u>
2-22-47	99.9%
2-23-47	99.3%
2-24-47	99.1%

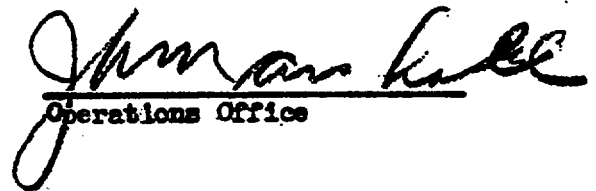
Standard Operating Procedures - The following procedures are being issued:

K-27 Emergency Reduction of Load Supplied by TVA - This procedure has been revised to provide the Plant General Foreman with direct notification of any emergency load reductions by the K-731 control room foreman.

Recirculating Water Pump Control-Power Failure - Procedures are set and explanations are given as to the method of maintaining a supply of process water to the K-300 section.

Complete Power Failure to Section K-830 - This procedure sets forth the steps to be followed in advent of a complete power failure to K-832, in preparation for the startup on return of the power supply.

GWSell:lw


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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-21-47
To 0700, 2-24-47

<u>PRODUCTION Kgt</u>	<u>Three Day Total</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
C-2035	9.028		69.355		
C-5327	6627.027		33270.073		733020.745

<u>USAGES Kgt</u>			<u>Stock Feed Em. & Storage</u>
K-25 Waste	2728.829	2728.829	112401.551
C-616	3908.64	30921.25	41583.01
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86
C-2035		.449	

<u>SHIPMENTS Kgt</u>		
C-2035	2.343	58.943

<u>INTERPLANT FLOW</u>	<u>Day Ending 0700, 2-22-47</u>	<u>0700, 2-23-47</u>	<u>0700, 2-24-47</u>	<u>Daily Avg. This Month</u>
Kgt	2822	2822	2822	2822
K-402-9 Conc.	5591218	7791248	7741383	4451374
K-311-1 Conc.	5570146	4450144	6670546 *	1120311

<u>PURGE RATES-Scf/day</u>				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	3390	3230	2801	3555

<u>CONC. C-616 IN PURGE CASCADE</u>				
Top	-	-	-	-
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>				
Total V. F.	133.9	133.2	132.9	133.2
Total 120mV.F.	4.9	4.9	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min</u>				
G-74 Rate	29.8	43.1	29.8	37.8
Dry Air Rate	5050	4850	5050	5170
Ambient Air Rate	12000	10000	9900	11200

JHRay/ ga
JCLaycock/

* K-310-3.1

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-20-47 to 0800 2-21-47

PART I

Summary of Events

Operations - Although visible and audible alarms are already in use for protection against excessive cell stage pressures in Plant II, additional tests are being made to provide automatic protection through the cell overcurrent relay settings. It was found that protection could be supplied to the bottom five stages of the cells by having the cell by-pass valves arranged to open when the cell pressure (determined by cell motor load) reached the desired maximum. In order to prevent stage 6 overloads, from stage control valves stuck closed, an experimental program is now underway to determine the practicability of operation in Plant II with all sixth stage control valves set in a normal position on manual control. Accordingly K-306-3, K-305-5, K-305-6 and K-305-7 have been operating in this manner for several days. To date no reactions have been encountered to discourage this method of operation.

A test was run to determine the effect of a nitrogen slug traveling through a building operating in this manner. The cascade was split at K-306-3.10 from 1040 to 1125 to allow nitrogen to accumulate below the split. When the cascade was rejoined, a slug of nitrogen with a peak of 90% passed through to K-306-7 with no marked difficulty.

The stream efficiency of the separating cascade was 99.9%.

JA Man Rul
Operations Office

GWSell:nh

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-21-47

	To day	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
<u>PRODUCTION - Kgt</u>					
C-2035	2.997		60.327		
C-5327	1286.211		26643.046		726394.663
 <u>USAGES - Kgt</u>					
K-25 Waste					115130.330
C-616	1302.35		27012.61		41631.24
C-936					1913.93
S-50 Waste					76663.94
C-934					223.36
C-2035			.449		
 <u>SHIPMENTS - Kgt</u>					
C-2035	3.342		56.600		
 <u>INTERPLANT FLOW</u>					
Kgt	2822	2822			
K-402-9 Conc.	5521241	4451384			
K-311-1 Conc.	4480227	1160325			
 <u>PURGE RATES-Scf/day</u>					
K-312-1 (Top)	-	-			
K-312-2 (Side)	3262	3616			
 <u>CONC. C-616 IN</u>					
<u>PURGE CASCADE</u>					
Top	-	-			
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶			
 <u>POWER LOAD-Mw.</u>					
Total V.F.	134.1	133.2			
Total 120 V.F.	4.9	4.9			
 <u>G-74 AND DRY AIR Scf/min.</u>					
G-74 Rate	32.0	38.3			
Dry Air Rate	5000	5198			
Ambient Air Rate	10200	11285			

JHRay/
JCLaycock/ ga

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-19-67 to 0800 2-20-67

PART I

SUMMARY OF EVENTS

Diversion Control - Records accumulated since the inception of the "R" area restrictions in Plant II show that an appreciable saving could be made by reducing the number of portals to the area. Accordingly portal #3, opposite K-304-4, was closed on February 19. At this time Plant II badges held at this portal were transferred to portal #5, between K-304-1 and 303-10 on the operating floor. In addition, plans and construction are underway for the re-location of the vehicle entrance from portal #4 to portal #2, in order that the former may possibly be closed at a later date.

Operations - K-305-11.7 was off-stream from 1040 to 1310 for an instrument calibration. This cell is the fifth, and last, to be included in the program to determine cell instrument "drift" or bias over a period of time in various parts of the plant.

K-304-2.5 was evacuated to .50 psia at 0920 for coolant pump repairs. The cell was isolated from 1125 to 0320, when replacement of the pump was necessary.

The stream efficiency of the separating cascade was 99.6%.

A. P. Tolson
Operations Office

GWSell/mh

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-20-47

<u>PRODUCTION - KgT</u>	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
C-2035	3.000		57.330		
C-5327	1307.987		25356.835		725110.844

<u>USAGES - KgT</u>			<u>Stock Feed Rm. & Storage</u>
K-25 Waste			115130.380
C-616	1301.58		42892.76
C-936		25709.76	1913.83
S-50 Waste			76663.94
C-934			223.86
C-2035		.449	

<u>SHIPMENTS - KgT</u>		
C-2035	4.992	53.258

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	3381287	1111390
K-311-1 Conc.	3390248	1110320

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3124	3635

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶

<u>POWER LOAD-Mw.</u>		
Total V. F.	133.6	133.1
Total 120 V. F.	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	32.0	38.6
Dry Air Rate	5000	5208
Ambient Air Rate	9900	11342

JHRay/
JCLaycock/pvd

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-18-47 to 0800 2-19-47

PART I

SUMMARY OF EVENTS

Operations - As the tons concentration of the plant has been rising steadily, the rate of product withdrawal was accelerated during the 8-4 and 4-12 shifts to lower the concentration to the standard previously established at the time the most recent production commitment was set. This concentration was reached near the end of the 4-12 shift, at which time the rate of withdrawal was lowered to hold the concentration relatively stable.

The interplant feed from K-27 to K-25 was changed from the B spare to the sectional recycle line to route it to K-310-3.2. The spare lines will be needed for process service during the converter and valve change program in K-311-1, scheduled for February 24.

The stream efficiency of the separating cascade was 100%.

R. P. Huber
Operations Office.

G.W.Sell/bbs

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-19-47

	Today	Daily Avg. This Month	To Date This Month	Stock Ship Storage
<u>PRODUCTION - Kgt</u>				
C-2035	4.980		54.330	
C-6327	1300.624		24048.848	723802.848

			Stock Feed Em. & Storage
<u>USAGES - Kgt</u>			116130.380
K-25 Waste			35901.94
C-616	1300.08	24408.18	1913.83
C-936			76663.94
S-50 Waste			223.86
C-934			
C-2035		.449	

<u>SHIPMENTS - Kgt</u>		
C-2035	5.570	48.266

<u>INTERPLANT FLOW</u>		
Kgt	2822	2822
K-402-9 Conc.	5561415	4491398
K-511-1 Conc.	7750264	3340333

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3737	3664

<u>CONC. C-616 IN</u>		
<u>PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V.F.	134.1	133.1
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	30.1	39.0
Dry Air Rate	5150	5219
Ambient Air Rate	9600	11422

JHray/
JClaycock/ ga

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 2-17-47 to 0800 2-18-47

PART I

Summary of Events

Operations - The motor on the coolant pump of K-304-5.10 burned out. Repairs were made with the cell on-stream by lowering the tails pressure to .55 psia from 1920 to 2050.

K-301-1.2 was returned to cascade operation at 1625. The cell had been off-stream to repair a coolant leak.

The stream efficiency of the separating cascade was 99.7%.

GWSell/ga

J. M. [Signature]
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-16-47

	<u>To day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
PRODUCTION - Kgt				
C-2035	2,798		49,350	
C-5327	1290.812		22748.224	722504.699
 USAGES - Kgt				
K-25 Waste				115130.380
C-616	1307.17		23108.10	37208.90
C-936				1913.83
S-50 Waste				76663.94
C-934				225.86
C-2035			.449	
 SHIPMENTS - Kgt				
C-2035	5.651		42.696	
 INTERPLANT FLOW				
Kgt	2822	2822		
K-402-9 Conc.	3321411	1111390		
K-311-1 Conc.	4460185	4440333		
 PURGE RATES-Scf/day				
K-312-1 (Top)	-	-		
K-312-2 (Side)	3796	3659		
 CONC. C-616 IN PURGE CASCADE				
Top	-	-		
Side	1.0×10^{-6}	1.0×10^{-6}		
 POWER LOAD-Mw.				
Total V.F.	133.6	133.0		
Total 120 V.F.	4.9	4.9		
 G-74 AND DRY AIR-Sq in.				
C-74 Rate	36.8	39.5		
Dry Air Rate	5200	5224		
Ambient Air Rate	9400	11629		

JHRay/ ga
JCLaycock/

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 2-14-47 to 0800 2-17-47

PART I

Summary of Events

Operations - The leak in the coolant tubes in K-301-1.2.3 was repaired and the cell was back on stream by 2206, February 14. However, the cell was again isolated and evacuated at 0425, February 15, on indication of a C-816 leak of approximately 3.0 pounds per day. However after several G-74 purges, the inleakage was again checked and found to be very low. On the basis that the inleakage detected originated from trapped C-816 from the actual leak, the cell was returned to cascade operation at 1225. On February 16, at 0530, a C-816 inleakage of approximately 3.6 pounds per day was again detected. The cell was isolated, evacuated and purged to a negative C-616 analysis. Leak testing operations are now underway to determine the source of the inleakage.

Routine dew point testing of cell enclosures has been discontinued in Plants I and III. Operating experience has shown that the normal bleed-off of dry instrument air from those instruments contained within the cell enclosures, plus the normal cell ambient air supply is of sufficient magnitude to maintain the blanket of cell ambient air at a required dew point. Routine dew-point testing has been discontinued in Plant II since the inception of the Diversion Control regulations.

A series of tests were run in various cells in Plant II to determine the effect on motor loads with one stage control valve fully closed. Data was acquired from the following cells:

K-304-4.9, K-304-6.6, K-305-1.5, K-305-6.3, K-306-2.7 and K-306-6.5.

The stream efficiencies of the separating cascade during this report period were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
February 15	99.6%
" 16	99.8%
" 17	99.7%

GKSell:ova

A. P. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

From 0700, 2-14-47
To 0700, 2-17-47

	<u>Three Day Total</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
<u>PRODUCTION - Kgt</u>					
C-2035	8.667		46.552		
C-5327	3866.302		21457.412		721213.887

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES - Kgt</u>			<u>115130.380</u>
K-25 Waste			38516.08
C-616	3896.91	21800.93	1913.83
C-936			76663.94
S-50 Waste			223.86
C-934			
C-2035		.449	

<u>SHIPMENTS - Kgt</u>		
C-2035	3.053	37.045

<u>Day Ending 0700, 2-15-47</u>	<u>0700, 2-16-47</u>	<u>0700 2-17-47</u>	<u>Daily Average This Month</u>
-------------------------------------	----------------------	---------------------	-------------------------------------

<u>INTERPLANT FLOW</u>				
Kgt	2822	2822	2822	2822
K-402-9 Conc.	7741353	1191308	2261385	4451394
K-311-1 Conc.	1160365	1180307	3320291	2230342

<u>PURGE RATES - Ssf/day</u>				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	3512	4889	3739	3651

<u>CONC. C-616 IN PURGE CASCADE</u>				
Top	-	-	-	-
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>				
Total V.F.	133.2	133.8	133.3	133.0
Total 120 V.F.	4.9	4.9	4.9	4.9

<u>G-74 AND DRY AIR-Ssf/min.</u>				
G-74 Rate	34.9	32.7	52.0	39.7
Dry Air Rate	5900	5050	5050	5225
ent Air Rate	10400	10600	9900	11663

JHRay/
JCLaycock/lw

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-13-47 to 0800 2-14-47

PART I

Summary of Events

Operations- The C-816 leak detected in K-301-1.2 was located at #3 converter.

K-301-4.5 was shutdown from 1100 to 1200 for a static instrumentation check. This cell was previously shutdown for a static check and calibration as the first step of a program to determine instrument "drift" over a period of time.

The interplant flow from K-25 to K-27 was lowered to 175 pound units per hour between 1620 and 2300 because of low K-601 surge drum pressure.

The stream efficiency of the separating cascade was 99.6%.

A. P. Zuber
Operations Office

CHS:ell/mh

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-14-47

	<u>Today</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
<u>PRODUCTION - Kgt</u>					
C-2035	2.746		37.885		
C-5327	1287.745		17591.110		717348.763

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES - Kgt</u>			
K-25 Waste			115130.380
C-616	1297.47	17904.02	42422.04
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86
C-2035		.449	

<u>SHIPMENTS - Kgt</u>		
C-2035	1.580	33.987

<u>INTERPLANT FLOW</u>	<u>Kgt</u>	<u>Kgt</u>
K-402-9 Conc.	4491428	1151404
K-311-1 Conc.	7730282	1110351

<u>PURGE RATES - Sef/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	4244	3559

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶

<u>POWER LOAD-Mw</u>		
Total V. P.	132.8	132.9
Total 120 V. P.	4.9	4.9

<u>G-74 AND DRY AIR-Sef/min.</u>		
G-74 Rate	46.0	39.7
Dry Air Rate	5050	5200
Ambient Air Rate	10700	11977

JHRay/
JCLaycock/ SA

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CARBIDE AND CARBON CHEMICALS CORPORATION

**PROCESS DIVISION
OPERATIONS 0800 2-12-47 to 0800 2-13-47**

PART I

Summary of Events

Operations - Stage pressures in K-305-7,8 and 9 were raised between 0854 and 1100 in order to redistribute the cascade inventory in this part of the plant, as well as to achieve more optimum operating conditions.

K-310-1.3 and .1 were returned to cascade operation, completing the converter change program in this building.

K-311-1 was isolated from 1045 to 1125 in order to check the seat leakage of the building block valves preparatory to a converter change in this building on February 24. Since K-311 will be down at this time it is tentatively scheduled to shutdown the K-310 section also in order to check and make any necessary repairs to buses 7 and 8 at the powerhouse.

The frequency of K-312-1 was further raised from 40 to 45 cycles between 1045 and 1125 as a continuation of the test of the performance of the carbon seal installations on the stage pumps.

A C-316 leak of approximately 1.7 pounds per day was detected in K-301-1.2 at 0340. The cell was isolated, shutdown and is being purged preparatory to repairs.

The stream efficiency of the separating cascade was 99.7%.

The stream efficiency ending 0800, 2-12-47 was in error. The efficiency was 99.3%.

GTSeil:ovd

A. P. Fisher
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-13-47

	<u>To-day</u>	<u>Daily Avg.</u> <u>This Month</u>	<u>To-Date</u> <u>This Month</u>	<u>Stock</u> <u>Ship</u>	<u>Storage</u>
PRODUCTION - KgT					
C-2035	2.612		35.139		
C-5327	1288.359		16303.365		716061.969
USAGES - KgT					
K-25 Waste					<u>Stock</u> <u>Feed Rm. & Storage</u>
C-616	1312.47		16606.55		115130.380
C-936					39637.29
S-50 Waste					1913.83
C-934					76663.94
C-2035			6449		223.86
SHIPMENTS - KgT					
C-2035	4.542		32.401		
INTERPLANT FLOW					
KgT	2822	2822			
K-402-9 Conc.	2241473	5551404			
K-311-1 Conc.	9960345	4440353			
PURGE RATES-Scc/day					
K-312-1 (Top)	-	-			
K-312-2 (Side)	3014	3502			
CONC. C-616 IN					
PURGE CASCADE					
Top	-	-			
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶			
POWER LOAD-Mw					
Total V.F.	133.3	132.9			
Total 120 V.F.	4.9	4.9			
G-74 AND DRY AIR-Scc/min.					
G-74 Rate	43.1	39.1			
Dry Air Rate	5300	5213			
Ambient Air Rate	11800	12083			

JHRay / mh
JCLaycock

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 2-11-47 to 0800 2-12-47

PART I

Summary of Events

Operations - K-310-1.4 and the building process lines were put on-stream at 1200. A N₂ slug from this operation necessitated pinching down on the sectional block valve at K-301-5 between 1220 and 1240. The upflow was further dampened at K-303-3.4 between 1240 and 1400. K-310-1.6 was returned to cascade operation at 1520, and K-310-1.5 was on-stream by 0435. K-310-1.3 is near the end of the conditioning cycle, and K-310-1.1 is being tested by V. T. D.

In order to determine the operating characteristics of those cells, 7 through 21, equipped with carbon seals in K-312-1, the frequency was raised from 30 to 35 cycles between 0915 and 0955. The operating speed was further raised by increasing the frequency to 40 cycles between 1315 and 1405. As the purge efficiency increased, cells 22, 20, 18, 16, 14 and 12 were shut-down, leaving only those cells equipped with carbon seals, operating. (Cells 2, 4, 6, 8, 10, 3, 5 and 7 have been in standby condition since November.

The stream efficiency of the separating cascade was 99.2%

J. A. Man Hall
Operations Office

MSell/cl

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-12-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
PRODUCTION - KgT					
C-2035	3.447		32.527		
C-5327	1302.466		15015.006		714774.852
USAGES - KgT					
K-25 Waste					<u>Stock</u> 115130.380
C-616	1301.81		15294.08		40949.76
C-936					1913.83
S-50 Waste					76663.94
C-934					223.86
C-2035 *	.449		.449		
SHIPMENTS - KgT					
C-2035	3.055		27.865		
INTERPLANT FLOW					
KgT		2822	2822		
K-402-9 Conc.	7781627		1151394		
K-311-1 Conc.	8840453		6670356		
PURGE RATES-Scf/day					
K-312-1 (Top)	-		-		
K-312-2 (Side)	3792		3547		
CONC. C-616 IN					
PURGE CASCADE					
Top					
Side	1.0×10^{-6}		1.0×10^{-6}		
POWER LOAD-M					
Total V.F.	131.1		132.9		
Total 120 V.F.	4.9		4.9		
G-74 AND DRY AIR-Scf/min.					
G-74 Rate	32.7		38.8		
Dry Air Rate	5800		5205		
Ambient Air Rate	11200		12109		

* Two special cylinders flashed back to cascade. This amount to be deducted for actual monthly total to date.

JHRay/
JCLaycock/ mh

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-10-47 to 0800 2-11-47

PART I

Summary of Events

Operations - Work is proceeding on the installation of K-27 in K-310-1. By 0800, February 11, the converters were installed in cells 4 and 6 and the cells were on a conditioning cycle. The converters have been cut from cells 1, 3 and 5; the replacements are essentially all placed. The installation of P-10 valve seats in the main block valves was complete with the exception of seat leakage testing.

After K-310-1 was changed from the spare bypass lines to the normal lines at 1820, the K-601 surge drum pressure decreased steadily, making it necessary to stop the K-25 to K-27 inter-plant flow from 1845 to 1915. It was found that a valve was open from the A normal bypass line to the surge for purge system. The inventory which accumulated was immediately re-evacuated to the cascade.

The stream efficiency of the separating cascade was 98.8%.

A. P. Hester
Operations Office

GNSell/lw

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-11-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	2.599		29.080		
C-5327	1328.227		13712.540		713474.478
<u>USAGES - KgT</u>					
K-25 Waste					<u>Stock Feed Rm. & Storage</u>
C-616	1335.04		13992.27		115130.380
C-936					38119.63
S-50 Waste					1913.83
C-934					76663.94
					223.86
<u>SHIPMENTS - KgT</u>					
C-2035	6.006		24.810		
<u>INTERPLANT FLOW</u>					
KgT		2822	2822		
K-402-9 Conc.	4461655		1121371		
K-311-1 Conc.	4470606		6660345		
<u>PURGE RATES - Scf/day</u>					
K-312-1 (Top)	-		-		
K-312-2 (Side)	3573		3522		
<u>CONC. C-616 IN PURGE CASCADE</u>					
Top	-		-		
Side	1.0×10^{-6}		1.0×10^{-6}		
<u>POWER LOAD - Kw</u>					
Total V.F.	129.6		133.1		
Total 120 V.F.	4.9		4.9		
<u>G-74 AND DRY AIR-Scf/min.</u>					
G-74 Rate	41.2		39.4		
Dry Air Rate	5700		5145		
Ambient Air Rate	13200		12200		

JHRay / mh
JCLaycock /

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Report Number 111

CLINTON ENGINEER WORKS

CARBIDE AND CARBON CHEMICALS CORPORATION
Process Division
Process Engineering Department
Production Engineering Section

DAILY OPERATIONS REPORT ON CASCADE

Date of Issue FEB 11 1947

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 2-7-47 to 0800 2-10-47

PART I

Summary of Events

Operations - The first phase of the separation performance test in K-402-4 was completed at 1515, February 7. This run was made at a pressure level of Pressures in the building were then re-adjusted to a level of This phase of the test was complete by 2330. K-402-4, except cell 2, was returned to normal cascade operation at 0120, February 8. Cell 2, which had been isolated with LN_2 , was put on-stream at 0350.

A plantwide sanitary water failure occurred at 1318, February 7, when a section of the ten inch main broke, east of the K-1050 building. This branch of the system was isolated and pressure in the system was restored by 1345.

Tails pressures in the even cells of K-306-4 were raised from between 1145 and 1200 on February 9.

The rate of waste condensation in K-631 was raised from 3.5 to 4.0 pound units per hour between 1500 and 1900, February 9, in order to stay under the maximum surge drum pressure in K-631. K-402-5.9 was being purged for a seal change at this time, which necessitated a reduction in the size of the surge system since three drums are isolated for purge service. The rate was again increased to four pound units per hour at 2200 when K-402-9.10 was to be purged.

K-310-5.2 was returned to normal cascade operation at 0440, February 8, on completion of the K-27 installation.

Product withdrawal was suspended during the 4-12 shift on February 9, when a valve in the out-going header of the line recorder manifold of K-306-7 developed a leak. The deficiency was made up by increasing the amount withdrawn on the next shift.

K-310-1 was isolated and evacuated to the cascade starting at 2100, February 9. The present converters, are to be replaced with units containing During this program the major building and cell block valve seats will be replaced by P-10 seats. By 0045, February 10, the building was purged to a negative C-618 analysis. By 0800 converters had been removed from cells 4 and 6 and the new units were being spotted in place.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
2-8-47	98.5%
2-9-47	99.8%
2-10-47	99.2%

GWSell/ga

J. L. R. Lee
Operations Office

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PART II
DAILY PRODUCTION REPORT

From 0700, 2-7-47
To 0700, 2-10-47

	Three Day Total	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
PRODUCTION - KgT					
C-2035	8.287		26.481		
C-5327	3903.103		12384.313		712146.251

			Stock Feed Rm. & Storage
USAGES - KgT			115130.380
K-25 Waste			39476.44
C-616	4217.85	12657.23	1913.83
C-936			76663.94
S-50 Waste			223.86
C-934			

SHIPMENTS - KgT		
C-2035	2.434	18.804

	Day Ending 0700, 2-8-47	0700, 2-9-47	0700, 2-10-47	Daily Avg. This Month
INTERPLANT FLOW				
KgT	2822	2822	2822	2822
K-402-9 Conc.	5581337	4491398	5521661	7771346
K-311-1 Conc.	5580257	5560275	4430562	1120321

PURGE RATES-Scf/day				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	3148	3211	3162	3516

CONC. C-616 IN PURGE CASCADE				
Top	-	-	-	-
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

POWER LOAD-Mw				
Total V.F.	133.4	133.8	132.3	133.4
Total 120 V.F.	4.9	4.9	4.9	4.9

G-74 AND DRY AIR-Scf/min				
G-74 Rate	31.1	44.1	46.9	39.2
Dry Air Rate	5300	5000	5150	5083
Ambient Air Rate	11600	12300	12300	12089

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 2-6-47 to 0800 2-7-47

PART I

Summary of Events

Operations - A special test is underway in K-402-4 to determine the separation performance, psi(³), of barrier installed in the even cells of the building. One such test has already been run at a tails pressure this test will be run at two pressure levels,

The first phase of the test is being run at a pressure level of cells. In preparation for this run crude feed was stopped at 2130 while waste condensation was continued, in order to pull the K-631 surge pressure down sufficiently to provide surge capacity for the excess inventory to be evacuated from K-402-4. The surge drums dropped to 1.0 psia by 0320, at which time crude feed was resumed. K-402-4 was isolated at 0500 and evacuated through the A building outlet to the desired pressure conditions. During this period crude feed was again suspended. It was resumed at 0620 to K-402-5.1, at a rate of 4½ units per hour to make up for the feed lost during the shutdowns.

K-402-4 was set up on direct recycle with cell 1 as the top at a pressure tapered. The even cells, were adjusted

The remaining cells were tapered up from with a gradient of per stage. Cell 3 was set up as the bottom of the direct recycle cascade for surge capacity. After the building has operated in this manner for approximately 3 hours, for the purpose of establishing equilibrium, samples will be taken across area, the difference in X concentration representing the separation performance. Following the sampling, the building will be re-adjusted to a high side pressure of and the test repeated.

K-310-3.2 was evacuated at 0200 in preparation for a converter charge. K-310-3.4 was returned to cascade operation at 0700. Converters in both these cells are being replaced with units containing

The stream efficiency of the separating cascade for the day ending 0800, 2-6-47, was in error. The correct value is 99.5%.

The stream efficiency of the separating cascade during this report period was 99.4%.


Operations Office

GNSell/lw

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-7-47

	To-Day	Daily Av. This Month	To Date This Month	Stock Ship	Storage
<u>PRODUCTION - K_gT</u>					
C-2035	2.740		18.194		
C-9327	1246.957		8481.210		708247.938

			Stock Feed Rm. & Storage
<u>USAGES - K_gT</u>			
K-25 Waste			115130.380
C-616	938.01	8439.38	43701.07
C-936			1913.83
S-50			76663.94
C-934			223.86

<u>SHIPMENTS - K_gT</u>		
C-2035	3.056	16.370

<u>INTERPLANT FLOW</u>		
K _g	2822	2822
K-402-9 Conc.	2291368	4441293
K-311-1 Conc.	1180347	7750304

<u>DRY RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3880	3638

<u>CONC. G-616 IN FUDGE CASCADE</u>		
Top	-	-
Side	1.0x10 ⁻⁶	1.0x10 ⁻⁶

<u>POWER LOAD-Mw.</u>		
Total V. F.	133.1	133.5
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	41.8	38.4
Dry Air Rate	5200	5050
Ambient Air Rate	11500	12100

J. C. Laycock/
JHE-w/bbs

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Process Division
Process Engineering Department
Production Engineering Section
DAILY OPERATIONS REPORT ON CASCADE

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 2-5-47 to 0800 2-6-47

PART I

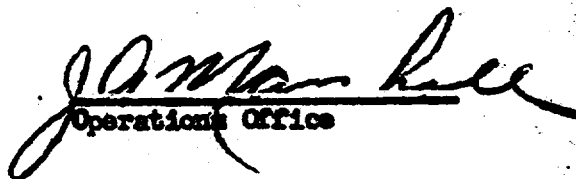
Summary of Events

Diversion Control - All equipment transfers to or from the RR area of Plant II will have to be made through the equipment exchange portal at K-306-1. The portal will be open on day shift from 0830 to 0930, and from 1300 to 1400. At times other than these, equipment can be brought in by arrangement with the Area V foreman. However, no equipment will be released from the RR area at times other than those listed on day shift.

Operations - K-310-3.8 and K-310-3.6 were returned to cascade operation at 1410 and 0345 respectively on completion of the installation of converters. K-310-3.4 was evacuated at 0300 for converter replacement.

The fans on the K-25 process water cooling towers were shut-down at 2000 to aid in thawing ice formations in the towers. The process water temperature was raised from 75°F to 78°F. To compensate for this increase, the pressure of the system was raised from 47 to 55 psig to aid in maintaining normal coolant temperatures in the plant. By 0800, the ice formations in the towers were starting to break up.

The stream efficiency of the separating cascade was 99.8%.


Operations Office

GWSell/mh

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-6-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To-Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
<u>PRODUCTION - Kgt</u>					
C-2035	2.748		15.454		
C-5327	1277.011		7234.253		707002.183

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES - Kgt</u>			
K-25 Waste			115130.380
C-616	1311.66	7501.37	39114.42
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86

<u>SHIPMENTS - Kgt</u>		
C-2035	2.429	13.314

<u>INTERPLANT FLOW</u>		
Kgt	2822	2822
K-402-9 Conc.	1181327	4441283
K-311-1 Conc.	8820321	2260295

<u>PURGE RATES - Sec/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3315	3649

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD - Mw</u>		
Total V.F.	133.0	133.7
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR - Sec/min.</u>		
G-74 Rate	51.0	37.7
Dry Air Rate	5150	5020
Ambient Air Rate	13700	12220

JHray/ mh
JClaycock/

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 2-4-47 to 0800 2-5-47

PART I

Summary of Events

Diversión Control - Personnel whose Plant II badges include a red star, and those persons accompanying them, will be admitted to the product withdrawal station in addition to those previously reported.

Standard Operating Procedures - The following Standard Operating Procedures are being issued:

Coolant Circulating Pump Failure - This procedure has been revised to comply with the policy of eliminating shaft rotation by hand.

Operation of Kinney Vacuum Pumps - This procedure has also been revised to eliminate shaft rotation by hand.

Steam Distribution Emergency - This procedure presents the method of steam distribution during any emergency, to insure an uninterrupted supply to the G-74 plant.

Operations - The tails pressures in the odd cells of K-306-4 were raised from _____ during the 8-4 shift. The even cells of the building will be raised _____ as rapidly as cascade conditions permit.

K-310-3.6 was evacuated to the cascade at 0140 in preparation for the replacement of the present _____ with converters tubed with _____

K-303-3 was isolated at 0750, as a precautionary measure, when VF feeder 202 tripped. The building was returned to normal operation by 0758.

The steam efficiency of the separating cascade was 99.8%.

J. A. Manahan
Operations Office

GWSell/mh

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 2-5-47

	<u>To-day</u>	<u>Daily Avg.</u> <u>This Month</u>	<u>To Date</u> <u>This Month</u>	<u>Stock</u> <u>Ship Storage</u>
<u>PRODUCTION - KgT</u>				
C-2035	2.723		12.706	
C-5327	1270.265		5957.242	705726.031

			<u>Stock</u> <u>Feed Rm. & Storage</u>
<u>USAGES - KgT</u>			
K-25 Waste			115130.380
C-616	1290.12	6189.71	40426.08
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	4.784	10.885

<u>INTERPLANT FLOW</u>		
KgT	2882	2882
K-402-9 Conc.	1151304	5561285
K-311-1 Conc.	1180387	6660295

<u>PURGE RATES-Sec/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3205	3733

<u>CONC. C-616 IN</u> <u>PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD -Mw</u>		
Total V.F.	133.4	133.9
Total 120 V.F.	4.9	4.9

<u>G-74 AND DRY AIR-Sec/min.</u>		
G-74 Rate	40.3	34.4
Dry Air Rate	5200	4988
Ambient Air Rate	12200	11850

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 2-3-47 to 0800 2-4-47

PART I

Summary of Events

Diversion Control- The K-306-7 product withdrawal station was restricted under the following controls at 1600.

1. Entry to the product withdrawal station is restricted to those persons having a properly signed and dated pass, used also for entry to the storage areas, and persons accompanying an individual having such a pass. Maintenance personnel may enter the station only if their names are on a properly authorized work order for work in the station.
2. Access shall be only through the south gate. The east gate is sealed and shall be used only for emergency exit.
3. Inspection of passes and work orders will be made by the operators in the product withdrawal station.

Operations- Waste condensation in K-631 stopped from 1145 to 1445 to allow the surge drum pressure to build up.

K-310-3.8 was isolated during the 12-8 shift for replacement of the present
verters. con-

The stream efficiency of the separating cascade was 99.9%.

A. P. Huber
Operations Office

ONEll/mh

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700. 2-4-47

	Today	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
<u>PRODUCTION - K_gT</u>					
C-2035	2.721		9.983		
C-5327	1138.393		4686.977		704459.001

			Stock Feed Rm. & Storage
<u>USAGES - K_gT</u>			
K-25 Waste			115130.380
C-616	1300.77	4899.59	37593.07
C-936			1913.83
S-50 Waste			76663.94
G-934			223.86

<u>SHIPMENTS - K_gT</u>		
C-2035	6.101	6.101

<u>INTERPLANT FLOW</u>		
K _g T	2822	2822
K-402-9 Conc.	7761335	2211270
K-311-1	7740303	2260265

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)		
K-312-2 (Side)	4770	3909

<u>CONC. C-616 IN</u>		
<u>PURGE CASCADE</u>		
Top		
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶

<u>POWER LOAD-Mw.</u>		
Total V.F.	133.9	134.0
Total 120 V.F.	4.9	4.9

<u>G-74 and DRY AIR-Scf/min.</u>		
G-74 Rate	36.1	32.4
Dry Air Rate	4950	4917
Ambient Air Rate	11500	11733

JH Ray/
JCLaycock/bbs

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 1-31-47 to 0800 2-3-47

PART I

Summary of Events

Operations- The monthly plant inventory was taken on January 31, from 1300 to 1410. Crude feed was stopped from 1245 to 1410, but resumed at a rate sufficient to make up the loss. Waste condensation in E-631 was stopped from 1245 to 1430.

K-402-5.10 was returned to cascade operation on completion of the converter change to . This is the last call presently scheduled for a converter change in E-27 for the experimental program to determine on-stream separation performance and characteristics of improved barriers.

Operations were otherwise normal as evidenced by the high stream efficiencies through the report period.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
2-1-47	99.9%
2-2-47	100.0%
2-3-47	99.7%

A. P. Fisher
Operations Office

GWSell/nh

PART II
DAILY PRODUCTION REPORT

From 1300, 1-31-47
To 0700, 2-3-47

	Three Day Total	Daily Avg. This Month	To Date This Month	Ship	Stock Storage
PRODUCTION - KgT					
C-2035	7.262		7.262		
C-5327	3548.584		3548.584		703320.608

			Stock Feed Rm. & Storage
USAGES - KgT			115130.380
K-25 Waste			38883.18
C-616 *	3598.82	3598.82	1913.83
C-936			76663.94
S-50 Waste			223.86
C-934			

SHIPMENTS - KgT
C-2035

	Day Ending 0700, 2-1-47	0700, 2-2-47	0700, 2-3-47	Daily Avg. This Month
INTERPLANT FLOW				
KgT	2822	2822	2822	2822
K-402-9 Conc.	4451304	1141243	1171216	1151254
K-311-1 Conc.	5520281	5600199	3320281	6670256

PURGE RATES - Scf/day

K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	3623	3344	3612	3478

**CONC. C-616 IN
PURGE CASCADE**

Top				
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

POWER LOAD - Mw

Total V.F.	134.1	134.0	134.1	134.1
Total 120 V.F.	4.9	4.9	4.9	4.9

G-74 AND DRY AIR-Scf/min

G-74 Rate	36.1	30.1	31.1	30.6
Dry Air Rate	4800	4950	4850	4900
Ambient Air Rate	12200	11800	11900	11850

* Effective this month a crude feed conc. of 1127102% is used

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JClaycock/

mh

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 1-30-47 to 0800 1-31-47

PART I

Summary of Events

Operations- The waste rate in K-631 was increased from 3.5 #units/hour to 4.5 #units/hour from 1230 to 0320 in order to pull the surge drum pressure down from the maximum allowable pressure which was being approached. It is important that the surge pressure be kept below this set maximum as three of the twelve surge drums are at present frequently isolated from the system for surge-purge service, reducing the effective surge capacity by 25%.

K-402-5.10 was isolated at 2245 for replacement of the present converters
This is the last cell in K-27 scheduled
K-402-5.8 was returned to cascade operation at 2300.

K-301-4.5 was off-stream for an instrument check.

The stream efficiency of the separating cascade was 99.8%.

A. B. Hulmer
Operations Office

GWSall/mh

PART II
DAILY PRODUCTION REPORT

Day Ending 1300, 1-31-47

	<u>Today</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
PRODUCTION - KgT				
C-2035	3.51		84.84	
C-5327	1860.32		40438.07	699773.41

			<u>Stock Feed Rm. & Storage</u>
USAGES - KgT			
K-25 Waste			115130.38
C-516	1611.82	40417.94	42487.04
C-936			1913.83
S-50 Waste			76663.94
C-934			223.86

SHIPMENTS - KgT		
C-2035	5.76	85.93

Day Ending
0700, 1-31-47

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	1161415	5561395
K-311-1 Conc.	1120341	4450384

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	4170	3735

<u>CONC. C-616 IN</u>		
<u>PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw</u>		
Total V. P.	133.7	132.3
Total 120 V. F.	4.9	4.5

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	48.2	36.2
Dry Air Rate	5500	5103
Ambient Air Rate	9100	10310

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JCLaycock/ ga

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PROCESS DIVISION
OPERATIONS 0800 1-29-47 to 0800 1-30-47

PART I

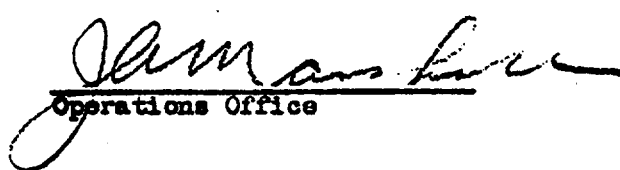
Summary of Events

Operations- A plantwide cascade inventory will be taken at 1300 on January 31.

The tops concentration passed through a minimum point during the 8-4 shift and has shown a regular rise since that time.

K-402-5.8 was isolated at 2245 to replace the present converters with K-402-5.6 was returned to cascade operation at 0235, upon completion of the converter replacements.

The stream efficiency of the separating cascade was 99.7%


Operations Office

GWSell/mh

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-30-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
<u>PRODUCTION - K₂T</u>					
C-2035	2.93		81.33		
C-5327	1288.05		38577.75		697913.98
<u>USAGES - K₂T</u>					
K-25 Waste					<u>Stock</u> <u>Feed Rm. & Storage</u> 115130.38
C-616	1304.57		38806.12		38569.80
C-936					1913.83
S-50 Waste					76663.94
C-934					223.86
<u>SHIPMENTS - K₂T</u>					
C-2035	2.35		80.17		
<u>INTERPLANT FLOW</u>					
K ₂ T	2822	2822			
K-402-9 Conc.	2231412	1161395			
K-311-1 Conc.	4490348	4450394			
<u>.E RATES-Scf/day</u>					
K-312-1 (Top)	-	-			
K-312-2 (Side)	3913	3720			
<u>CONC. C-616 IN PURGE CASCADE</u>					
Top					
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶			
<u>POWER LOAD-Mw.</u>					
Total V.F.	133.7	132.2			
Total 120 V.F.	4.9	4.5			
<u>Q-74 AND DRY AIR-Scf/min.</u>					
Q-74 Rate *	48.3	35.8			
Dry Air Rate	5400	5090			
Ambient Air Rate	8300	10352			

* Q-74 Rate for Day Ending 0700, 1-29-47 was 36.8 scf/min.

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JCLaycock / cal

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-28-47 to 0800 1-29-47

PART I

Summary of Events

Diversion Control - During the next two weeks, while the mechanics of operating Plant II with a restricted RR area are being worked out, all maintenance and inspection work within the RR area shall be held to the absolute minimum required for continuous operation. There will be no design change work or instrument alignments made. Admittance to the RR area shall be only under orders signed by a Plant II Area Foreman or Area Supervisor.

Operations - K-402-5.4 was returned to cascade operation at 0555, upon the completion of the converter replacements. K-402-5.6 was isolated at 2245 for replacement of the present converters also

A leak was found in an instrument line to stage 5 in K-306-7.12. A check showed that the air inleakage was reduced within limits, but the G-74 rate was still approximately 14 scf/day.

K-305-12.5 was off-stream for a dynamic instrument alignment.

Tests were run in K-303-2.7 and K-303-2.9 to determine if external coolant leaks could be repaired while the cells remained on-stream. The investigations involved test runs to determine if the stage temperatures could be maintained sufficiently low, by lowering stage pressures, while the cell was operating on-stream with the coolant system shutdown. It was found to be possible to hold the stage temperature of cell by grading cell 8 pressures com

The stream efficiency of the separating cascade was 99.4%.

A. P. Fisher
Operations Office

GWSe11/mew

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-29-47

<u>PRODUCTION - KgT</u>	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
C-2035	2.63		78.40		
C-5327	1286.20		37289.70		696627.07

<u>USAGES - KgT</u>			<u>Stock Feed Rm. & Storage</u>
K-25 Waste			115130.38
C-616	1295.21	37501.55	39874.38
C-936			1913.83
S-50 Waste			78663.94
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	5.43	77.82

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	5541353	2251394
K-311-1 Conc.	6630252	2260395

<u>PURGE RATES-Scf/day</u>		
K-312-1 (top)	-	-
K-312-2 (side)	3535	3713

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD - Mw</u>		
Total V.F.	133.3	132.2
Total 120 V.F.	4.9	4.5

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	42.9	35.5
Dry Air Rate	5500	5079
Ambient Air Rate	9100	10426

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JCLaycock/

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 1-27-47 to 0800 1-28-47

PART I

Summary of Events

Operations- K-402-5.4 was isolated at 2245 in preparation for a converter change. The present units in this cell are being replaced with converters

K-306-5.12 was off-stream from 1335 to 1505 for a check of the cell instrumentation.

The high side pressures in K-306-4 and the odd cells of K-306-5 will be as soon as the tops concentration rises sufficiently.

The stream efficiency of the separating cascade was 99.6%.

A. P. Z...
Operations Office

GWSell/nh

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-28-47

	To-day	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
<u>PRODUCTION - KgT</u>					
C-2035	2.73		75.77		
C-5327 *	1287.14		36003.50		695342.45

				Stock Feed Rm. & Storage
<u>USAGES - KgT</u>				
K-25 Waste				115130.38
C-616	1295.37		36206.34	41178.24
C-936				1913.83
S-50 Waste				76663.95
C-934				223.86

<u>SHIPMENTS - KgT</u>		
C-2035	5.56	72.39

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	4461285	3341393
K-311-1 Conc.	5520271	2230392

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3573	3720

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V.F.	133.6	132.1
Total 120 V.F.	4.9	4.5

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	33.9	35.3
Dry Air Rate	5250	5063
Ambient Air Rate	8600	10475

Production from 0700 1-24-47 to 0700 1-27-47 was 3863.85 KgT

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JClaycock/mew

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 1-24-47 to 0800 1-27-47

PART I
SUMMARY OF EVENTS

Operations - The pressure level of Section K-306 is being further raised, continuing the program of pressure optimization. On January 24, tails pressures in K-306-1.5 through K-306-2.5 were at the approximate rate of one call every 20 minutes. Following this adjustment the tops concentration dropped, but recovered quickly without affecting production. On January 26, pressures in K-306-2.7 through K-306-2.4 were Again a slight decrease was noticed in product concentration. Pressure adjustments were made in K-306-2.2 and all cells of K-306-3 during the 12 - 8 shift of January 27. The tails pressures will be through K-306-5.13 as rapidly as the tops concentration will allow.

K-305-12.7 was isolated on January 24 for a dynamic instrument check.

K-402-5.2 was returned to cascade operation at 0945, January 25, after the installation of converters.

A leak was found on a weld at the stage 5 control valve of K-306-7.12, and repaired. However, leak testing is still in progress since the inleakage remained abnormal.

The stream efficiencies of the Separating Cascade were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
1-25-47	99.6%
1-26-47	99.8%
1-27-47	99.95%

GWSell:bed

A. P. Huber
Operations Office

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PART II
DAILY PRODUCTION REPORT

From 0700, 1-24-47
To 0700, 1-27-47

	Three Day Total	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
<u>PRODUCTION - KgT</u>					
C-2035	8.20		73.04		
C-5327	3863.85 3863.35		34716.36		694055.31

			Stock Feed Rm. & Storage
<u>USAGES - KgT</u>			115130.38
K-25 Waste			38363.49
C-616	3909.03	34910.97	1913.83
C-936			76853.92
S-50 Waste			223.86
C-934			

	Day Ending 0700, 1-25-47	0700 1-26-47	0700 1-27-47	DAILY AVG. THIS MONTH
<u>SHIPMENTS - KgT</u>				
C -2035	2.43		66.83	

	2822	2822	2822	2822
<u>INTERPLANT FLOW</u>				
KgT				
K-402-9 Conc.	2291258	2281257	4461275	1131392
K-311-1 Conc.	2240283	7760245	3360285	1110400

<u>PURGE RATES - Scf/day</u>				
K-312 - 1 (Top)	—	—	—	—
K-312 - 2 (Side)	3623	3257	3243	3726

<u>CONC. C-616 IN</u>				
<u>PURGE CASCADE</u>				
Top	—	—	—	—
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶

<u>POWER LOAD - Mw.</u>				
Total V.F.	133.4	133.5	133.4	132.1
Total 120 V.F.	4.6	4.7	4.7	4.5

<u>G-74 AND DRY AIR-Scf/min.</u>				
G-74 Rate	35.2	32.0	26.9	35.3
Dry Air Rate*	4950	5185	5100	5056
Ambient Air Rate**	10300	9500	8800	10547

* Day Ending 0700, 1-24-47 - 5000 Scf/min
** Day Ending 0700, 1-24-47 -10900 Scf/min

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-23-47 to 0800 1-24-47

PART I

Summary of Events

Operations - The ten cells in K-306-3 and K-306-4 that still remained during the 8 - 4 shift, completing the present pressure optimization in section K-306. It is significant that during this program, the product concentration showed a steady increase while the normal daily-product commitment was withdrawn. It appears as though the K-306 section, while operating at the stage pressures previous to adjustment, may have been restricting upflow to such an extent as to limit product withdrawal or product purity. From these observed reactions during the pressure optimization program, it appears as though the daily product withdrawal may be increased or the product purity raised.

Waste condensation was stopped from 1000 to 1315 to allow the K-631 surge drum pressure to increase, as it was approaching the set minimum operating pressure.

The third phase of the improved barrier test program was begun when K-402-5.2 was isolated at 1040 in preparation for a converter change. The converters in the even cells of K-402-5 are to be replaced by converters To date has been installed in the even cells of K-402-4, have been placed in the odd cells of K-402-5.

K-305-12.10 was off-stream for an instrument alignment, and K-306-5.12 was shutdown for a static instrument check.

The stream efficiency of the Separating Cascade was 99.5%.

A. P. Huber
Operations Office

GWSell/cal

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-24-47

	To day	Daily Avg. This Month	To Date This Month	Stock Ship	Storage
<u>PRODUCTION - KgT</u>					
C-2035	2.75		64.84		
C-5327	1066.94 *		30852.51		690419.11

			Stock Feed Rm. & Storage
<u>USAGES - KgT</u>			
K-25 Waste			115130.38
C-616	1296.70	31001.94	38142.68
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	2.53	64.40

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	1201289	1111410
K-311-1 Conc.	1180307	1110410

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	4146	3771

<u>CONC. C-616 IN</u>		
<u>PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V.P.	133.0	131.9
Total 120 V.P.	4.6	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	39.0	35.8
Dry Air Rate	**	
Ambient Air Rate		

FTHoffmann/
JCLaycock/ ga

- * Waste condensing off 3.25 hrs. to raise K-631 surge drum pressure.
- ** Figure not available.

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-22-47 to 0800 1-23-47

PART I

Summary of Events

Operations - The program to optimize the pressures in the K-306 section was accelerated to a rate of one cell per hour, since previous adjustments did not show any effect on the tops concentration. Pressures were _____ in the remaining three cells of K-306-2, in nine cells in K-306-3, in eight cells of K-306-4, and in two cells of K-306-5. Nine cells of K-306-3 and K-306-4 _____ and will be adjusted the next two shifts, completing this phase of the program.

The amount of waste removed daily in K-631 is to be experimentally lowered to 84 #units. It had previously been set at 84.8 #units, the crude feed rate, but the surge drums in K-631 have shown a regular decrease in pressure since that time.

K-305-8.5 was off-stream for an instrument check.

A total G-74 and air inleakage of approximately 12 scf/day is still reported in K-306-7.12. Leak testing operations are proceeding.

A special weekly "T" analysis of C-2035 product will be made by the laboratory in order to check on the amounts of fluorocarbon contaminant present. A special cylinder of product was withdrawn during the 12-8 shift for this purpose. In the future the analyses will be made on product withdrawn during the 12-8 shifts every Monday. Upon completion of each analysis, the material will be shipped to the consumer.

The stream efficiency of the separating cascade was 99.9%.

GWSell/ga

R. F. Fisher
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-23-47

<u>PRODUCTION - KgT</u>	<u>To day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
C-2035	2.74		62.09		
C-5327	1251.86		29765.57		689354.26

<u>USAGES - KgT</u>			<u>Stock Feed Rm. & Storage</u>
K-25 Waste			115130.38
C-616	1289.05	29705.21	39133.09
C-936			1913.85
S-60 Waste			76853.92
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	2.37	61.87

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	7741263	1121421
K-311-1 Conc.	6640293	2230422

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3671	3754

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V.F.	133.3	131.8
Total 120 V.F.	4.6	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	30.1	35.7
Dry Air Rate	4950	5055
Ambient Air Rate	11700	10669

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 1-21-47 to 0800 1-22-47

PART I
Summary of Events

Operations - The adjustment of K-306 cell pressures to a more optimum level for present production was continued at a rate of three cells per shift. The high side pressures of the following cells were during this report period:

K-306-5.14)	
K-306-5.13)	During the 8 - 4 Shift
K-306-2.12)	
K-306-5.11)	
K-306-5.9)	During the 4 - 12 Shift
K-306-2.10)	
K-306-5.7)	
K-306-5.5)	During the 12 - 8 Shift
K-306-2.8)	

The test in K-312-2.12 to determine the consumption rate at 60 cycle operation was stopped when the bellows assembly of a Valley Iron pump failed. Another test is scheduled to be run in K-312-1, also at 60 cycles, to secure further information on the rate of consumption.

Leak testing was resumed in K-306-7.12 after the repair of the leak at the seal feed storage tank did not completely isolate the total inleakage.

K-306-4.5 was off-stream for a control valve check.

The stream efficiency of the Separating Cascade was 99.9%.

GWSell:bed

J. A. Marshall
Operations Office

PART II
DAILY PRODUCTION REPORT Day Ending 0700, 1-22-47

	<u>To day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
<u>PRODUCTION-KgT</u>				
C-2035	2.73		59.35	
C-5327	1298.48		28533.71	688103.53

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES-KgT</u>			
K-25 Waste			115130.38
C-616	1291.96	28416.20	40453.79
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS-KgT</u>		
C-2035	6.19	59.50

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	1121261	1151434
K-311-1 Conc.	1140303	1130432

<u>PURGE RATES-Scf/day</u>		
K-212-1 (Top)	-	-
K-312-2 (Side)	3452	3758

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V.F.	132.7	131.8
Total 120 V.F.	4.6	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	30.1	36.0
Dry Air Rate	5000	5060
Ambient Air Rate	10850	10620

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800, 1-20-47 to 0800, 1-21-47

PART I

Summary of Events

Operations - High side pressure adjustments were continued in the K-306 section at the rate of two cells per shift. The following cells were

K-306 - 5.8
K-306 - 2.11
K-306 - 2.13
K-306 - 5.10
K-306 - 5.12
K-306 - 2.14

Since the tops concentration is still slowly rising, three cells per shift will be optimized starting on the 8 - 4 shift, January 21.

K-306 - 3.5 was off-stream for an instrument alignment.

The leak in K-306 - 7.12 was found at the seal feed storage tank and repaired.

A plantwide sanitary water failure occurred from 1830 to 1840 when a valve was accidentally closed at the Sanitary Water plant. There were no line recorder failures resulting from this water failure.

Waste will continue to be condensed at a uniform rate equal to that for normal feed, as long as the K-631 surge drum pressure remains between 1.0 and 2.5 psia.

The 60 Cycle consumption test in K-312 - 2.12 has been continued. Results to date show a consumption rate approximately three to four times greater than during normal operation.

The stream efficiency of the separating Cascade was 99.7%.

J. Marshall
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-21-47

	<u>To-day</u>	<u>Daily Avg.</u> <u>This Month</u>	<u>To Date</u> <u>This Month</u>	<u>Stock</u> <u>Ship</u>	<u>Storage</u>
<u>PRODUCTION -K₂T</u>					
C-2035	2.77		56.62		
C-5327	1293.88		27235.23		685517.58

			<u>Stock</u> <u>Feed Rm. & Storage</u>
<u>USAGES-K₂T</u>			
K-25 Waste			115130.38
C-616	1313.66	27124.24	36234.03
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS-K₂T</u>		
C-2035	5.43	53.21

<u>INTERPLANT FLOW</u>		
K ₂ T	2822	2822
K-402-9 Conc.	9961355	8851434
K-311-1 Conc.	9930392	1160435

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	2779	3774

<u>CONC. C-616 IN</u> <u>PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Kw</u>		
Total V.F.	132.0	131.7
Total 120 V.F.	4.5	4.4

<u>G-74 AND DRY AIR-Scf/min</u>		
G-74 Rate	31.1	36.3
Dry Air Rate	5300	5063
Ambient Air Rate	9900	10608

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800, 1-17-47 to 0800, 1-18-47
1-20-47

PART I

Summary of Events

Diversion Control - Three janitors have been assigned to the RR Foreman of Plant II. These men will work straight days covering the area seven days a week. In addition to their normal work they will check the A. C. pump basins and drain the accumulated oil daily.

Standard Operating Procedures - The following Standard Operating Procedures are being issued on January 20.

Lube Oil Failure - This procedure has been revised to stipulate building isolation with by-pass valves closed in case of building lube oil failure. A procedure for K-631 lube oil failure has been added.

Battery station control checks - In the future process personnel will make periodic checks of battery stations supplying control power for switch gear.

Failure of recirculating water supply to K-1101 and K-1201 - This procedure sets forth the method by which fire water will be used as cooling water if the normal water supply fails.

Complete power failure to section K-800 - The procedure outlines the method of operation of section K-800 in case of complete power failure. A gasoline driven fire pump is to be started to supplant the electrically driven pumps.

Manual operation of the oil accumulator system - This procedure is related to the previous subject; power failure in K-800. The accumulator system supplies oil under pressure to the cones of the discharge valves of the recirculating pumps. Under normal operation the oil is recirculated and pressured by an electric motor driven centrifugal pump and air compressor respectively. In case of a power failure affecting this equipment, plant air may be valved in to maintain operation of the oil system.

Operations - The program of pressure optimization in the K-306 section was continued. As the tops concentration continued to show an increase, the rate of pressure adjustment to the cells of the K-306 section was increased from one to two cells per shift. The following cell pressures were adjusted:

K-306-1.8
K-306-1.6
K-306-1.4
K-306-1.2
K-306-2.1
K-306-2.3
K-306-2.5

1-17-47
1-17-47
1-18-47
1-18-47
1-18-47
1-19-47
1-19-47

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K-306-5.2
K-306-2.7
K-306-5.4
K-306-2.9
K-306-5.6

1-19-47
1-19-47
1-19-47
1-20-47
1-20-47

K-306-6.8 and K-306-7.13 were off-stream on January 17 for instrument alignments.

K-306-7.12 was isolated and purged for the replacement of stage 5 and 6 control valves on January 17. The inner bearings of these valves were found corroded, accounting for the previous poor control. The cell was returned to cascade operation on January 18, but again was isolated on the basis of a leak of approximately 20 scf/day. To date the source of the inleakage has not been determined.

A cascade split was effected for two hours and forty minutes at K-302-3.4 on January 18 to stop a nitrogen slug which originated when K-402-5.6 was put on stream upon completion of a seal change.

The 60 cycle corrosion test was started in K-312-2.12 on January 17. The run will be concluded on January 20, to avoid possible pump bellows failure. It is expected that a test of this duration will yield results from which a comparison of consumption can be made with present normal operation.

Effective at 0700 January 20, waste will condensed in K-631 at a uniform rate to yield a total for 24 hours equal to the amount of crude material fed, normally 26 kg. units T. This rate will be maintained unless the K-631 surge drum pressure varies beyond certain limits, to be determined. The method of operation previous to this directive was to remove waste from the cascade at a rate sufficient to maintain a definite surge drum pressure.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
1-18-47	99.5%
1-19-47	99.8%
1-20-47	99.9%

GNSell:ovd

A. P. Zuber
Operations Office

PART II
DAILY PRODUCTION REPORT

From 0700, 1-17-47
To 0700, 1-20-47

	To-day	Daily Avg. This Month	To Date This Month	Ship	Stock Storage
<u>PRODUCTION - KgT</u>					
C-2035	8.19		53.85		
C-5327	3297.72		25941.35		685517.58

			Stock Feed Rm. & Storage
<u>USAGES - KgT</u>			
K-25 Waste			115130.38
C-616	3915.50	25810.58	37547.67
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

				Daily Avg. This Month
<u>SHIPMENTS - KgT</u>				
C-2035	2.50		47.88	
	Day-ending 0700, 1-18	0700, 1-19	0700, 1-20	

<u>INTERPLANT FLOW</u>				
KgT	2822	2822	2822	2822
K-402-9 Conc.	7731392	6661485	7761365	1121441
K-311-1 Conc.	7760525	7720461	7790388	6770436

<u>PURGE RATES-Scf/day</u>				
K-312-1 (Top)				
K-312-2 (Side)	3800	4053	2752	3826

<u>CONC. C-616 IN PURGE CASCADE</u>				
Top				
Side	1.0 X 10 ⁻⁶	1.0 X 10 ⁻⁶	1.0 X 10 ⁻⁶	1.0 X 10 ⁻⁶

<u>POWER LOAD-Mw.</u>				
Total V.F.	132.2	131.6	131.9	131.7
Total 120 V.F.	4.4	4.4	4.5	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>				
G-74 Rate	34.2	38.0	30.1	36.5
Dry Air Rate	5000	5100	5050	5051
Ambient Air Rate	10400	10375	10100	10645

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 1-16-47 to 0800 1-17-47

PART I

Summary of Events

Diversion Control - The five doors that remained open between the operating floor and the RR area in Plant II have been locked closed. The remaining entrances, the special changehouses at K-312-2 and K-304-4, have not been put under guard control to date.

Operations - The stage pressures of K-306-1.14, K-306-1.12 and K-306-1.10. Upon completion of the converter changes in K-306-1.11 at 0735, the cell was returned to cascade operation at

K-306-2.6, K-306-3.2, K-306-4.3 and K-306-4.8 were isolated for instrument alignments. K-306-7.13 and K-306-6.8 were isolated at 0720 in preparation for static instrument checks during the 8-4 shift. Plugging checks were made on K-306-1.3, K-306-1.10, and K-306-4.3.

The special 60 cycle consumption test in K-312-2.12 has been delayed because of trouble which developed in the pumps.

The stream efficiency of the separating cascade was 99.3%.

GESell:ovd

A.P. Fisher
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-17-47

	To-day	Daily Avg. This Month	To Date This Month	Ship	Stock Storage
<u>PRODUCTION - KgT</u>					
C-2035	2.77		45.66		
C-5327	1289.89		22121.97		681698.76

			Stock Feed Rm. & Storage
<u>USAGES - KgT</u>			
K-25 Waste			115130.38
C-616	1291.80	21895.08	35901.91
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	2.40	45.38

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	7791428	1111440
K-311-1 Conc.	3350484	1110430

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3933	3381

<u>CONC. C-616 IN</u>		
<u>PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V. F.	132.1	131.7
Total 120 V. F.	4.3	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	36.1	37.0
Dry Air Rate	5500	5051
Ambient Air Rate	8800	10712

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 1-15-47 to 0800 1-16-47

PART I

Summary of Events

Diversion Control - A system of maintenance coverage for the RR area of Plant II has been adopted to conform with the diversion control regulations. A special portal has been constructed at K-306-1 to check all equipment entering and leaving the area. No maintenance man, other than those routinely assigned to the area for seal change, Valley Iron Pump repair, lubrication, and relamping, will be permitted in the RR area unless following a definite job specified by a work order. This applies to process, electrical, and instrument maintenance. As previously reported, the foreman-in-charge will write work orders for maintenance within the RR area. He in turn will notify the RR foreman of the work specified. The work in turn will be covered and inspected by the RR operating personnel working out of the K-305-12 cell floor office.

Effective at 1200, January 16, the large double doors opening to the cell floor in Plant II will be locked closed. All entrance to the RR area will be made only through the K-312-2 and K-304-4 change houses which have been adapted for clothes change and search under guard control.

Operations - A complete plant inventory was taken at 1300. Feed and waste removal were resumed by 1450.

Pressures in K-306-1 thru K-306-5 will be to approach a more optimum stage pressure for operations at the present production. K-306-1.5 and K-306-1.7 were on January 14. Cells 9 and 13 of K-306-1 were January 15. The pressure adjustments will continue as rapidly as possible as long as an established product concentration is maintained.

K-306-1.11 was evacuated to the cascade at 0600, preparatory to a change of #1 and #5 converters, which were confirmed abnormally plugged.

K-305-8.7 was off-stream for an instrument check. K-306-4.3, K-306-4.8, and K-306-2.6 were off-stream by 0700 in preparation for instrument alignments during the 8-4 shift.

K-312-2.12 is being prepared for a test run at 60 cycles to determine the amount of corrosion consumption at this level compared to present operation. Results of this test will largely determine if 60 cycle operation will be adopted when the installation of carbon seals on the remaining pumps is complete. Higher frequency operation is desirable as less equipment need be in operation for normal purge service, and higher purge rates may be obtained.

The stream efficiency of the separating cascade was 99.8%.

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-16-47

<u>PRODUCTION - KgT</u>	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
C-2035	2.75		42.89		
C-5327	1277.01		20832.08		679133.68

<u>USAGES - KgT</u>			<u>Stock Feed Rm. & Storage</u>
K-25 Waste			115130.38
C-616	1307.29		37306.64
C-936		20603.28	1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	5.52	42.98

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	2251434	1121441
K-311-1 Conc.	7780547	1110430

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	2943	3877

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V.F.	132.0	131.6
Total 120 V. F.	4.4	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	34.9	37.0
Dry Air Rate	5300	5021
Ambient Air Rate	9100	10839

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-14-47 to 0800 1-15-47

PART I

Summary of Events

Diversion control - Operations in the Plant II RR area were assumed by the special flying squad, effective at 1700. However, the RR area is not at this time restricted to Plant II employees. The plan was put into effect at this time in order to develop the system effectively before ultimate area restrictions are applied. All work orders are being written by the "foreman-in-charge" on the operating floor, who in turn is notifying the RR area foreman of the details of the work to be performed. The RR foreman then accepts the orders on completion of the work.

Operations - Stage pressures in cells 5 and 7 of K-306-1
a continuation of the program to adjust K-306 pressures to
a level more optimum for present production.

✓ K-306-5.14 was returned to cascade operation at 1235 upon completion of the converter changes.

✓ K-306-5.1 and K-305-10.9 were off-stream for dynamic instrument alignments.

The stream efficiency of the separating cascade was 99.8%.

A. P. Huber
Operations Office

GWSell/ga

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-15-47

	<u>To-day</u>	<u>Daily Avg.</u> <u>This Month</u>	<u>To Date</u> <u>This Month</u>	<u>Stock</u> <u>Ship</u>	<u>Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	2.75		40.14		
C-5327	1246.04		19555.07		679133.68

			<u>Stock</u> <u>Feed Rm. & Storage</u>
<u>USAGES - KgT</u>			
K-25 Waste			115130.38
C-616	1232.57	19295.99	38720.55
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS-KgT</u>		
C-2035	3.01	37.46

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	3401509	1131452
K-311-1 Conc.	4450534	1140423

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3263	3944

<u>CONC. C-616 IN</u>		
<u>PURGE CASCADE</u>		
Top	-	-
Side	1.0x10 ⁻⁶	1.0x10 ⁻⁶

<u>POWER LOAD-Mw</u>		
Total V.F.	131.8	131.6
Total 120 V.F.	4.4	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	30.1	37.2
Dry Air Rate	5000	5001
Ambient Air Rate	9900	10964

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-13-47 to 0800 1-14-47

PART I
Summary of Events

Diversion Control - Atmospheric seals in Plant II will be checked once a month. To coordinate this program, a schedule has been issued, effective January 13, listing the order of the buildings to be checked daily.

Operations - Building K-301-1 was evacuated to the cascade, starting at 1120, to prevent excessive stage temperatures while changes were made in the process water system. A line from the sanitary water header was tied into the building process water return header, on the building side of the block valve, to serve as a make-up source for the process recirculating system. K-301-1 assumed normal operation by 1520.

- ✓ K-402-5.9 was returned to cascade operation at 2302 upon completion of
- ✓ K-305-12.8 was offstream for an instrument alignment.
- ✓ A complete plant inventory is scheduled for 1300, January 15.

The stream efficiency of the separating cascade was 99.5%.

GWSell:bed

A. P. Zuhir
Operations Office

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-14-47

<u>PRODUCTION - KgT</u>	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
C-2035	2.74		37.39		
C-5327	1152.80		18309.03		677891.60

<u>USAGES - KgT</u>			<u>Stock Feed Rm. and Storage</u>
K-25 Waste			115130.38
C-616	1291.77	18063.42	19231.15
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	5.42	34.45

<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	7781517	1111440
K-311-1 Conc.	1130462	1110410

<u>PURGE RATES - Sec/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	3548	3996

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD - Mw</u>		
Total V.F.	131.1	131.6
Total 120 V.F.	4.4	4.4

<u>G-74 AND DRY AIR</u>	<u>Sec/min</u>	
G-74 Rate	31.7	37.7
Dry Air Rate	4950	5001
Ambient Air Rate	10332	11045

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-10-47 to 0800 1-13-47

PART I

Summary of Events

Diversion Control - Effective at 0800, January 12, Plant II area restrictions were again returned. The badge exchange system was modified to alleviate the difficulties previously encountered. Portals #1, #2 and #3 are to be used only by personnel regularly employed in the corresponding areas. Only yellow Plant II badges will be issued at these portals. Personnel having Plant II badges at portals #4 or #5 will continue to use these access gates. If the Plant II badges of any of these employees cannot be located, visitor's buttons will be issued to them. Personnel desiring temporary access to Plant II will be admitted through portals #4 and #5 only. Carbide plant badges will be exchanged for visitor's buttons. The Plant II pass will not be issued until further notice.

On January 11 and 12, three motors in K-306-4 burned. These motors had not been lubricated for ten days as part of a test to determine the optimum lubrication time for the section. The test was run as part of the diversion control program in an attempt to reduce operations within the RR area to a minimum. In the future motors in the K-306 section will be lubricated weekly. Those in the K-305 and K-304 section will be lubricated once every two weeks.

✓ **Operations** - The tops flow from K-312-1, the top purge building, was changed from its purge facilities to the Beach-Russ pump feed header of K-312-2 at 1445, January 10

✓ A C-816 leak appeared in building K-301-1 at 0115, January 11, 1947. As the leak could not be found with the building on stream, K-301-1 was isolated from 0210 to 0225 while the leak was isolated to cell 7. The building was again isolated, from the central control room, at 0600, when a rapid concentration rise occurred in the N₂ channel. At this time cell 7 was being purged to atmospheric pressure for a negative analysis check, and nitrogen was being pulled to the cascade through the A outlet cell block valve which was not tightly closed. The building was set up on direct recycle and cells 2 and 4 were isolated with nitrogen. The remaining cells were put on stream at 0640. The A outlet of K-302-4.4 was pinched down to smooth out the resulting slug. Operations were normal by 1210. The leak in K-301-1.7 was found at #5 converter, repaired and the cell was back on stream by the 8-4 shift, January 12, 1947.

✓ K-306-5.11, K-306-5.13 and K-402-5.7 were returned to cascade operation on January 10, following scheduled converter changes.

K-402-5.9 was taken off stream at 2145. January 12, 1947, for the replacement of the present converters with . This is the last cell scheduled to have installed. K-306-5.14 was taken off stream at 0445 for replacement of stage 1 and 6 converters, on a basis of confirmed plugs.

Product withdrawal was restricted the first two days of the report period because of low tops concentration. The concentration built up sufficiently on January 12, to allow enough product to be pulled to make up the deficiencies of the previous periods. The drop in concentration can be probably accounted for by the cascade disturbance from K-306-5.13 G-74 inleakage.

K-306-3.2 and K-306-3.4 were off on January 10 for instrument checks. The dynamic check of K-306-6.2 was also completed on this date.

Negative C-616 and C-216 analyses were obtained on the K-311-1 evacuation header at 2300, January 11, 1947.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0800</u>	<u>Efficiency</u>
1-11-47	99.1%
1-12-47	99.5%
1-13-47	99.8%

GWSell/ga

A. P. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

From 0700 1-10-47
To 0700 1-13-47

<u>PRODUCTION - KgT</u>	<u>Three Day Total</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
C-2035	8.13		34.65	
C-5327	4049.70		17156.23	676738.80

<u>USAGES - KgT</u>			<u>Stock Feed Rm. & Storage</u>
K-25 Waste			115130.38
C-616	3895.07	16771.65	20522.92
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	3.07	29.03

<u>INTERPLANT FLOW</u>	<u>Day Ending 0700, 1-11-47</u>	<u>0700, 1-12-47</u>	<u>0700, 1-13-47</u>	<u>Daily Avg. This Month</u>
KgT	2822	2822	2822	2822
K-402-9 Conc.	1181457	4421591	1151584	1111440
K-311-1 Conc.	7740513	7730482	7740453	1150414

<u>PURGE RATES-Sqf/day</u>				
K-312-1 (Top)	215			
K-312-2 (Side)	4252	4666	3326	4034

<u>CONC. C-616 IN PURGE CASCADE</u>				
Top	1.0×10^{-6}			
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>				
Total V.F.	131.9	131.0	131.6	131.6
Total 120 V.F.	4.4	4.4	4.4	4.4

<u>G-74 AND DRY AIR-Sqf/min.</u>				
G-74	55.2	41.8	39.0	38.3
Dry Air Rate	4900	4850	4900	5005
Ambient Air Rate	10619	10004	10168	11105

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800, 1-9-47 to 0800, 1-10-47

PART I

Summary of Events

Diversion Control - The Plant II area was restricted under the terms of the diversion control program at 2300. However, difficulties encountered in the badge exchange system made it necessary to lift the area restrictions temporarily, until these difficulties can be corrected.

The relamping schedule has been revised in Plant II to coincide with the diversion control program. One man will be assigned to each area for day-shift work. Relamping within the RR area will be done every two weeks.

Standard Operating Procedures - A revised procedure is being issued on "Radiation Emergency". Under the terms of the new procedure, personnel in the affected areas will be evacuated to the K-1029 building, regardless of the location of the radiation. The procedure has also been revised to conform to Plant II diversion control precautions.

A new procedure is being issued entitled "K-27 Emergency Reduction of Load Supplied by TVA". It presents the methods of reducing K-27 power load by dropping blocks of 50 megawatts, in one or two steps, if an emergency occurs in the TVA system.

Procedures "Coolant Circulating Pump Failure", "Operation of K-311-1 Inter-sectional Cell", and "Operation of Kinney Vacuum Pumps", are being withdrawn for revision to conform with the Operations Department decision to discontinue hand rotation checks while equipment is "racked in".

Operations - The following cells were returned to normal cascade operation on completion of the scheduled converter changes

K-306-3.2 on at 1210
K-306-1.14 on at 1345
K-306-3.4 on at 1420
K-306-4.4 on at 1515

K-402-5.7 was taken off-stream at 2245 for the replacement of the present converters.

K-306-4.13, K-306-3.3, K-305-10.10 and K-306-1.8 were off-stream for static instrument checks. K-306-6.2 was taken off-stream at 0615 in preparation for a dynamic instrument check.

K-306-5.13 was found to be tied into cells K-306-5.11 and K-306-5.5 through the line recorder manifold of the building station, accounting for the nitrogen leakage into the cascade during the purge operations in this cell on January 9. Cells 8 and 10 in building K-306-3, which had been isolated with nitrogen resulting from the cascade split during the inleakage from K-306-5.13, were returned to normal operation by 0930.

Extensive purge operations have been underway on the evacuation header in K-311-1 in an attempt to get a negative analysis on the line. Indications are that the line was subjected to C-616 accumulation while in service between K-311-1 and K-601. At present the line is being purged to the cold traps of the K-302-5 purge and product room.

Preparations have been made to test the effectiveness of the side purge building when controlled on a basis of concentration reported by the thermal-conductivity cell in K-305-12. In this method of operation, the rate of side purging would also vary with the amount of light contaminants traveling up the cascade, but the response of the side purge rate to slugs would be more immediate than when controlled by the A.G.A. in K-312-2.

The stream efficiency of the separating cascade was 99.0%.

GWSell:ovd

A. B. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-10-47

<u>PRODUCTION - KgT</u>	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
C-2035	2.77		26.52		
C-5327	1527.57		13106.53		672691.84

<u>USAGES - KgT</u>			<u>Stock Feed Rm. & Storage</u>
K-25 Waste			115130.38
C-616	1307.68	12876.58	24473.35
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

<u>SHIPMENTS - KgT</u>		
C-2035	2.50	25.96

<u>INTERPLANT FLOW:</u>		<u>Daily Avg. This Month</u>
KgT	2822	2822
K-402-9 Conc.	3321541	1111400
K-311-1 Conc.	2240383	1110380

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	633	
K-312-2 (Side)	3548	3994

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	1.0×10^{-6}	
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>		
Total V.F.	132.1	131.7
Total 120 V.F.	4.3	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	50.1	35.9
Dry Air Rate	5033	5046
Ambient Air Rate	10332	11385

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-8-47 to 0800 1-9-47

PART I

Summary of Events

Diversion Control - Effective 2300 January 9, the Plant II "R" area will be restricted under the diversion control terms previously outlined. Area 6 employees will exchange their plant badges for Plant II yellow background badges at portal #1; Area 5 employees at portal #2; and area 4 employees at portal #3. Employees not regularly employed in Plant II who have necessary work to perform there will enter the area through one of the Plant II portals. The clerk at the portal will call the central verification office to insure that the employee is authorized to enter Plant II and upon approval, will issue in exchange for the employee's identification badge, a temporary white identification button and pass showing the employee's name, security number, destination and reason for being in Plant II. Plant Bulletin AI - #2 has been distributed to clarify the system. A series of meetings have been held by day supervision with employees to present and further clarify the contents of this bulletin.

✓ **Operations** - In order to clarify the operations in the K-312 section, as reported January 7, performed to permit repairs to the tops flow control valve in K-312-2, this summary of operations is reported to date. Previous to these changes the tops flow from K-312-2 was normal to the building purge pumps and the tops flow from K-312-1 was diverted to the feed header of the K-312-2 pumps also. On the 8-4 shift, January 7, the tops flow of K-312-1 was returned to the purge facilities of K-312-1, while the tops flow of K-312-2 remained the same. During the 8-4 shift of January 8, the tops flow of K-312-2 was changed to the purge facilities of K-312-3 and repairs were made to the tops flow control valve in K-312-2. At this time the tops flow of K-312-1 remained to the K-312-1 facilities. Upon completion of the repairs, the tops flow of K-312-2 was returned to its building purge facilities. This method of operation continued through the report period. It is expected that the tops flow of K-312-1 will again be changed to the feed header of the K-312-2 purge pumps, thereby returning the purge system to its previous method of operation.

The following cells were taken off-stream for the listed converter changes being made on a basis of abnormal confirmed plugs.

K-306-1.14	Stages	3, 4.
K-306-4.4	"	5.
K-306-5.11	"	1, 2, 4, 6.
K-306-5.13	"	1, 5, 6.

K-306-4.7 was returned to cascade operation at 1200, upon completion of the converter changes.

K-306-8.8 and K-306-5.12 were off-stream for instrument checks and alignments.

Upon indication of a high nitrogen inleakage which was rapidly displacing inventory in K-306-4 and K-306-5, these buildings were isolated on inverse recycle at 0520 and 0530 respectively. The inleakage was found to be coming from K-306-5.13 which at this time was at atmospheric pressure for a negative analysis sample. The cell was immediately dumped to the surge system, which stopped the pressure rise in K-306-5. K-306-5 and K-306-4 were returned to normal operation at 0625 and 0640 respectively. Cells 8 and 10 in K-306-3 were isolated with nitrogen accumulated during the cascade split.

The stream efficiency of the separating cascade was 99.0%.

GWSell/ga

J. M. Hall
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-9-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	2.77		23.75		
C-5327	1223.65		11578.96		671164.99
 <u>USAGES - KgT</u>					
K-25 Waste					<u>Stock</u>
C-616	1303.48		11568.90		<u>Feed Rm. & Storage</u>
C-936					115191.71
S-50 Waste					25784.67
C-934					1913.83
					76853.92
					223.86
 <u>SHIPMENTS - KgT</u>					
C-2035	2.32		23.46		
 <u>INTERPLANT FLOW</u>					
KgT	2822	2822			
K-402-9 Conc.	8861415	1111380			
K-311-1 Conc.	1180427	1110380			
 <u>PURGE RATES - Sec/day</u>					
K-312-1 (Top)	300*	275 **			
K-312-2 (Side)	3137	3902			
 <u>CONC. C-616 IN</u>					
<u>PURGE CASCADE</u>					
Top	1.0x10 ⁻⁶				
Side	1.0x10 ⁻⁶		1.0x10 ⁻⁶		
 <u>POWER LOAD -Mw</u>					
Total V.F.	132.0	131.6			
Total 120 V.F.	4.4	4.4			
 <u>G-74 AND DRY AIR *Sec/min</u>					
G-74 Rate	34.9	34.1			
Dry Air Rate	5221	5048			
Ambient Air Rate	9758	11517			

* Approximate
** 2 Day's average

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800, 1-7-47 to 0800 1-8-47

PART I
Summary of Events

Operations - The purge pumps in K-312-1 were started and the tops flow from K-312-1 and K-312-2 was changed to the feed header of these pumps by 1510. Prior to this change the tops flow of both buildings was to the purge pumps of K-312-2. The change was made to permit repairs to the the K-312-2 tops flow control valves.

✓ K-306-4.7, K-306-3.2 and K-306-3.4 were taken off-stream for converter changes on a basis of abnormal confirmed plugs. Converters of stages 1 and 6, 3 and 5, 1 and 5, respectively are being replaced.

✓ K-306-6.6, K-306-6.4 and K-306-1.8 were offstream for instrument checks and alignments.

✓ The installation of _____ was completed in K-402 -5.5 and the cell was returned to normal operation at 0500.

The stream efficiency of the separating cascade was 99.5%.

GWSell:ovd

P. H. Harker
Operations Office

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PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-8-47

	<u>To day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship Storage</u>
<u>PRODUCTION - KgT</u>				
C-2035	2.60		20.98	669942.75
C-5327	1375.45		10355.31	

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES - KgT</u>			
K-25 Waste			115191.71
C-316	1304.84	10265.42	27088.16
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

		<u>To Date This Week</u>	<u>Difference to Ship</u>
<u>SHIPMENTS - KgT</u>			
C-2035	6.13	21.14	

		<u>Daily Avg. This Month</u>
<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	2281407	1111380
K-511-1 Conc.	1200389	1110380

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	250 *	
K-312-2 (Side)	3800 *	4011

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	1.0×10^{-6}	
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw</u>		
Total V.F.	131.6	131.6
Total 120 V. F.	4.4	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	39.0	34.0
Dry Air Rate	5091	5023
Ambient Air Rate	10660	11768

* Approximate breakdown

FTHoffmann/
JCLaycock/ga

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-6-47 to 0800 1-7-47

PART I

Summary of Events

Operations - Stage pressures in building K-306-6 were order to operate closer to optimum conditions for production at the present tops concentration. During the major pressure change program in November, the stage pressures had been but were later to increase the rate of tops concentration rise.

✓ K-402-5.5 was taken off-cascade at 2245. The present converters are being re-placed as a continuation of the program for installation of improved barrier for test purposes.

✓ The converter change in K-306-6.12 was completed and the cell was back on-stream by 0700.

✓ K-306-6.9 and K-306-6.7 were off-cascade for instrument alignments.

✓ The frequency of the side purge building, K-312-2, was raised from 40 to 45 cycles during the 8-4 shift to facilitate the evacuation of the Plant II Surge System. The frequency was returned to normal by 1540.

✓ Diversion Control - As previously mentioned, under the standardized ventilation set up in Plant II some of the louvres in the withdrawal alley have been sealed closed. Those that will remain open are being covered with a wire mesh to prevent access, or material transfer, between the Basement and the RR area.

The stream efficiency for the separating cascade was 99.3%.

GWSell/ga

A. P. Huber
Operations Office

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-7-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Ship</u>	<u>Stock Storage</u>
<u>PRODUCTION - KgT</u>					
C-2035	2.73		18.38		
C-5327	1386.80		8979.86		668567.30

			<u>Stock Feed Rm. & Storage</u>
<u>USAGES - KgT</u>			
K-25 Waste			115191.71
C-616	1314.95	8960.58	28406.44
C-936			1913.83
S-50			76853.92
C-934			223.86

		<u>To Date This Week</u>	<u>Difference to Ship</u>
<u>SHIPMENTS - KgT</u>			
C-2035	5.62	15.01	

		<u>Daily Avg. This Month</u>
<u>INTERPLANT FLOW</u>		
KgT	2822	2822
K-402-9 Conc.	3341443	1111380
K-311-1 Conc.	6680427	1110380

<u>PURGE RATES-Scf/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	5492	4046

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0 x 10 ⁻⁶	1.0 x 10 ⁻⁶

<u>POWER LOAD-Mw.</u>		
Total V.F.	131.9	131.6
Total 120 V.F.	4.4	4.4

<u>G-74 AND DRY AIR-Scf/min.</u>		
G-74 Rate	38.0	33.2
Dry Air Rate	4970	5012
Ambient Air Rate	11603	11953

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION
OPERATIONS 0800 1-3-47 to 0800 1-6-47

PART I

Summary of Events

Operations - Building K-402-4 was isolated at 0910, 1-3-47, for a separation performance, psi (4), test of the recently installed in the even cells. The building was set up on direct recycle with cell 3 as the top, and allowed to operate approximately three hours to establish equilibrium conditions. A series of simultaneous samples were then taken from the top of cell 2 and cell 9. The difference in the U 235 analyses across these cells will represent the separation performance of the. The test was completed and the building returned to normal operation by 1715. The crude feed point was shifted from K-402-4.2 to K-402-5.1 during the test period.

✓ K-306-1.10 and K-306-8.10 were off-stream on January 3 for static instrument checks.

✓ K-306-8.14 and K-305-11.9 were returned to normal operation, January 4, on completion of the converter changes previously reported. K-306.6.12 was isolated at 0250, 1-6-47, for replacement of stage 1, 4 and 6 converters on a basis of confirmed abnormal plugs.

The stage pressures of K-306-1.3 were and K-305-12.6 was was stages to smooth out the operation of K-312-2.

K-305-12.4
on all

The stream efficiencies for the separating cascade were:

Day Ending 0800

Efficiency

1-3-47
1-4-47
1-5-47

98.6%
99.8%
99.8%

PART II
DAILY PRODUCTION REPORT

From 0700, 1-3-47
to 0700, 1-6-47

	Three Day Total	Daily Avg. This Month	To Date This Month	Ship	Stock Storage
<u>PRODUCTION - KgT</u>					
C-2035	9.05		15.65		
C-5327	3890.23		7593.08		687180.50

			Stock Feed Rm. & Storage
<u>USAGES - KgT</u>			
K-25 Waste			115191.71
C-616	3921.26	7645.63	29857.34
C-936			1913.83
S-50 Waste			76853.92
C-934			223.86

		To Date This Week	Difference to Ship
<u>SHIPMENTS - KgT</u>			
C-2035	2.41	9.39	

	Day Ending 0700, 1-4-47	0700, 1-5-47	0700, 1-6-47	Daily Avg. This Month.
<u>INTERPLANT FLOW</u>				
KgT	2822	2822	2822	2822
K-402-9 Conc.	1121351	7781387	6701329	1111360
K-311-1 Conc.	2260365	3380377	1160335	1110380

<u>PURGE RATES-Sof/day</u>				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	4046	4218	2472	3757

<u>CONC. C-616 IN</u>				
<u>PURGE CASCADE</u>				
Top				
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD-Mw.</u>				
Total V.F.	131.2	131.6	131.8	131.5
Total 210 V.F.	4.4	4.4	4.4	4.4

<u>G-74 AND DRY AIR-Sof/min.</u>				
G-74 Rate	36.1	30.1	31.7	32.2
Dry Air Rate	5154	4858	4950	5020
Ambient Air Rate	11275	12546	11890	12023

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JClaycock/ovd

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CARBIDE AND CARBON CHEMICALS CORPORATION

PROCESS DIVISION

OPERATIONS 0800 1-2-47 to 0800 1-3-47

PART I

Summary of Events

Operations - While the Plant II surge system was being evacuated through the side purge building, K-312-2, trouble was encountered in maintaining normal cascade purging operations. Nitrogen from K-305-12 was diverted to the K-306 section, causing cascade splits to be effected periodically. In an attempt to remedy this situation, K-305-12.4 and 6 were changed to automatic proportional response. Stage pressures in K-305-12.6 were to decrease the stream concentration of nitrogen at the point of take off to K-306-1. The feed to K-306-1 was throttled to maintain normal upflow. Pressures in K-305-12.4 were reduced to lower the feed pressure of K-312-2 which was at this time than the tops pressure of K-312-1. The cell pressure was

A change was made from automatic to proportional response because of erratic operation under the former condition.

Product withdrawal was curtailed during the report period because of nitrogen accumulation in K-306-7 down through cell 11. By 0300 the building was sufficiently purged to resume product withdrawal. The deficiency will be made up during the next report period in order to keep the amount of product withdrawn parallel with the commitments.

K-305-11.9 was taken off-stream at 1110 for replacement of number 2 and 3 converters, as these stages were abnormally plugged.

K-306-1.5 was off-cascade from 0825 to 1505 for an instrument alignment.

A series of psi (Ψ), separation performance, tests will be made on improved types of barrier recently installed, or to be installed in the near future, in K-27. To date, has been installed in the even cells of K-402-4, and has been installed in K-402-5.1 and 3. The remainder of the odd cells in K-402-5 will be changed to and the

even cells of the building will be equipped with separation performance test is to be made on each type of barrier under the same conditions to determine which type of barrier yields best plant performance. These results, coupled with results of tests run in the pilot plant, will be used to determine which of the present barrier production facilities shall be maintained in standby condition as a future source of supply. The first test, to be run on the TL units in K-402-4, will be started on January 3. The operational methods will be reported as the test progresses.

The stream efficiency of the separating cascade was 99.4%.

GWSell/ga

J. A. Man Hall
Operations Office

~~SECRET~~

PART II
DAILY PRODUCTION REPORT

Day Ending 0700, 1-3-47

	<u>To-day</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
PRODUCTION - KgT					
C-2035	2.09		6.60		
C-5327	1330.27		3702.83		663294.12

			<u>Stock Feed Rm. & Storage</u>
USAGES - KgT			
K-25 Waste			115191.71
C-616	1329.56		33789.66
C-936		3724.37	1913.83
S-50 Waste			76853.92
C-934			223.86

SHIPMENTS - KgT		
C-2035	2.42	6.98

		<u>Daily Avg. This Month</u>
INTERPLANT FLOW		
KgT	2822	2822
K-402-9 Conc.	6621381	1151394
K-311-1 Conc.	8830412	1120391

<u>PURGE RATES - Sec/day</u>		
K-312-1 (Top)	-	-
K-312-2 (Side)	4390	4024

<u>CONC. C-616 IN PURGE CASCADE</u>		
Top	-	-
Side	1.0×10^{-6}	1.0×10^{-6}

<u>POWER LOAD - Mw</u>		
Total V.F.	131.4	131.5
Total 120 V.F.	4.3	4.4

<u>G-74 AND DRY AIR - Sec/min.</u>		
G-74 Rate	33.0	31.6
Dry Air Rate	5287	5069
Ambient Air Rate	11733	12201

FT Hoffmann/
JG Laycock/ mh

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CARBIDE AND CARBON CHEMICALS CORPORATION
PROCESS DIVISION
OPERATIONS 0800 12-31-46 to 0800 1-2-47

PART I

Summary of Events

Molecular Interchange - The material from the test in K-306-5.4 was evacuated and purged to the surge system. The cell was returned to normal cascade operation at 2145, 12-31-46.

The test in K-303-4.3 was concluded when the concentration reached a definite equilibrium. Material balance calculations on this test closely substantiated the results of similar test runs in K-306-6.2 and K-306-5.4. The inventory of the cell was partially evacuated to carbon traps, and purged to the surge system, allowing the cell to be put back on the cascade by 0655, 1-1-47.

Operations - The regular monthly plant inventory was taken at 1100, 12-31-46. Crude feed, waste condensation, and product withdrawal were stopped from 1015 to 1240.

Starting at 1300, 12-31-46, the bottoms concentration of the side purge building, K-312-2, was slowly raised from 34% to 95%. The cascade was split at K-305-12, between 1330 and 1530, to stop the upflow of light contaminants to the K-306 Section. Various adjustments were made through the report period to obtain normal upflow to the K-306 Section, to optimize the feed points, to obtain optimum evacuation of the Plant II surge system. By 0800, 1-2-47, operation under the 95% bottoms concentration was functioning smoothly. The suction to K-312-2 was the feed to K-306-1 was from K-305-12.6.1; the return was to K-305-12.6.6. This increase in bottoms concentration will allow cells in K-312-2 to be shut down, thereby aiding diversion control by reducing operations, as well as increasing the efficiency of the purge operations.

The variable frequency of the K-25 Plant, except the K-306 Section, was raised one cycle between 2217 and 2227, 12-31-46, restoring all sections to normal operation. Powerhouse Boiler #3 was put back on the line upon completion of the scheduled maintenance, as the defective mill was still under repair.

K-306-7.6 was returned to cascade operation upon completion of the control valve replacement. Cell 8 was again set up for product withdrawal at 1310, 12-31-46.

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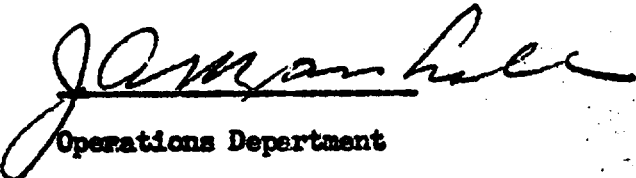
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K-306-6.14 was taken off-stream at 0300, 1-2-47, in preparation for number 1 and 3 converter replacements. These units are to be replaced on the basis of abnormal confirmed plugs.

The stream efficiencies of the separating cascade were:

<u>Day Ending 0700</u>	<u>Efficiency</u>
1-1-47	99.4%
1-2-47	99.8%

GW Sell:bed


Operations Department

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PART II
DAILY PRODUCTION REPORT

From 1100, 12-31-46
To 0700, 1-2-47

<u>PRODUCTION - KgT</u>	<u>Total</u>	<u>Daily Avg. This Month</u>	<u>To Date This Month</u>	<u>Stock Ship</u>	<u>Storage</u>
C-2035	4.51		4.51		
C-5327	2372.46		2372.46		661965.21

<u>USAGES - KgT</u>				<u>Stock Feed Rm. and Storage</u>
K-25 Waste				115191.71
C-616	2394.81		2394.81	35136.12
C-936				1913.83
S-50 Waste				76853.92
C-934				223.86

<u>SHIPMENTS - KgT</u>		<u>To Date This Week</u>		<u>Difference to Ship</u>
C-2035	4.56		4.56	
	<u>Day Ending</u>	<u>Daily Avg.</u>	<u>Day Ending</u>	<u>Daily Avg.</u>
	<u>0700, 1-1-47</u>	<u>December 1946</u>	<u>0700, 1-2-47</u>	<u>This Month</u>

<u>INTERPLANT FLOW</u>				
KgT	2822	2822	2822	2822
K-402-9 Conc.	4481347	1131312	6651394	1151394
K-311-1 Conc.	1170396	1150284	4430362	1150364

<u>PURGE RATES - Sef/day</u>				
K-312-1 (Top)	-	-	-	-
K-312-2 (Side)	2673	3562	3657	3657

CONC. C-616 IN PURGE CASCADE

Top	-	-	-	-
Side	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}	1.0×10^{-6}

POWER LOAD - Mw.

Total V.F.	128.5	131.4	131.5	131.5
Total 120 V.F.	4.4	4.4	4.4	4.4

G-74 AND DRY AIR - Sef/min

G-74 Rate	30.1	35.5	30.1	30.1
Dry Air Rate	4850	5107	4850	4850
Ambient Air Rate	12628	13549	12669	12669

FTHoffmanns bed
JCLaycock :

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DISTRIBUTION

1. K-25 Site Records (RC)
2. ChemRisk/Shonka Research Associates
3. S. G. Thornton (K-25 EMD)
4. DOE Public Reading Room

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